AGRICULTURAL UNDEREMPLOYMENT IN UTTAR PRADESH : 1961-1974

ABSTRACT

THESIS SUBMITTED
FOR THE AWARD OF THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN
ECONOMICS

BY
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ABSTRACT

The present study on "Agricultural Underemployment in Uttar Pradesh : 1961-74" seeks to analyse in detail the problem of agricultural underemployment or disguised unemployment in Uttar Pradesh with our focus being on Gorakhpur District.

By virtue of the area it covers and its population, Uttar Pradesh occupies a prominent position in India's economy. According to the 1971 Census, it is first in population and fourth in area in India. In the State, according to the same source, 86 per cent of the rural workers were engaged either as cultivators or as agricultural labourers and it is estimated that nearly 73 per cent of the total farmers own less than 5 acres of land. More than two-thirds of the rural workers are self employed (or own account) workers or unpaid family workers. Overpopulation and underemployment in the agricultural sector of Uttar Pradesh appears to be one of the most important characteristics of the State economy.

Chapter I examines in detail the hypothesis that relative backwardness of agriculture in Uttar Pradesh during the period under review is mainly on account of the presence of severe underemployment in the sector. Among the factors responsible for the agricultural underemployment are increase

in the supply of labour, limited opportunities of employment, lack of development in agricultural sector, seasonal fluctuations, cropping pattern, less use of high yielding varieties and tiny holdings.

Chapter II deals with methodology, technique and data used in the study in order to measure underemployment. In the discussion of underemployment it is generally the macro-definition of disguised unemployment that is widely used. The situation of disguised unemployment is visualised as one where the labour force in agricultural sector is so numerous in relation to the resources with which they work that if a number of them are withdrawn for work in other sectors of the economy the total output would not diminish. It can be seen that this macro-definition of disguised unemployment is formal and abstract. Thus though indispensable as an analytical tool it may not be quite helpful as a working concept in the measurement of unemployment and underemployment technique. For empirical study, it would be quite necessary to identify what part of the population is affected by disguised unemployment and to what degree.

This underlines the need for micro-approach. From the micro-angle, land and capital at the disposal of self-employed cultivator and his family are too meagre to enable them to make full use of their available labour. On this basic fact is superimposed the seasonal character of agricultural operations. As a result the cultivators have irregular and

insufficient work around the year. It is from this angle that the problem should be viewed and necessary primary data collected. This micro-approach would also be helpful in estimating the surplus agricultural population as a whole.

In practice, the problem of measuring underemployment in agricultural sector falls in to two separate parts: (i) wage-paid employment and (ii) self-employed.

In the case of those persons who fall under the category of wage-paid employment, the problem of measurement becomes relatively direct and simple. By a process of simple enumeration of the days on which a labour is employed, the total number of days unemployed can easily be determined in all such cases. This solve the first part of the problem.

The crucial difficulty arises in regard to the self-employment category in which the overriding problem is the measurement of underemployment and seasonal unemployment. In order to measure underemployment and seasonal unemployment, two methods have been used, namely "Work Norm" and "Time Norm".

The "Work Norm" method is related to the concept of "Standard Holding" which would be the "work norm" of full employment. A standard holding can be briefly described as "a holding which, under the existing conditions of techniques, provides full employment for a family of an average size working with such assistance as is customary in agricultural operations".

When once the "work norm" is defined in terms of standard holding, the degree of employment can be measured against the "norms" so fixed, the ideal case being that of full employment when work is done for the standard holding or above with the help of hired labourers. All other cases come under underemployment. Thus with the help of this "norm", it becomes possible to identify disguised underemployment.

Employment in agriculture depends on a number of factors. In terms of symbols:

$$E = f\ (S,\ Q,\ M,\ C,\ I,\ ....)$$

where E = Extent of employment on land
S = Size of holding
Q = Quality of land
M = Method of cultivation
C = Crop-pattern
I = Capital Intensity

But so far villages in a particular locality are concerned Q, M and C can be taken as consmtants. Therefore,

$$E = f\ (S, I)$$

Thus, the extent of employment on land can be indicated by the size of holding duly weighted by capital intensity.

The intensity of disguised unemployment can be given by the degree to which the actual holding falls short of the standard holding. To put it symbolically, if 'D' denotes the degree of disguised unemployment, 'S' the standard holding and 'C' the actual cultivated holding of each family, then a broad

indication of the degree of disguised unemployment can be given by the formula:

$$D = \frac{S-C}{S}$$

It may be noted that when S = C the value of 'D' will be zero. That is when the cultivated holding equals the standard unit, there will be full employment for the cultivator.

The method for estimation of seasonal unemployment of the cultivators in the agriculture sector of the State is that of "Time Norm". The approximate number of days of employment monthwise keeping in mind, land holdings, crop pattern, irrigation facilities, methods and techniques of cultivation etc., were obtained through personal interviews. Thus in the study both primary and secondary data have been used.

Chapter III is concerned with the agricultural under-employment in developing economies and its theoretical foundations. It appears from the detailed study of the problem that unemployment and underemployment exists in almost all the developing economies including India in varying degrees and form. It shows that the agricultural sector in developing economies, by and large serves as a refuge to their surplus population without a corresponding increase in output. The approach of developmental models with their implicit employment policy aiming at transferring workers from agricultural sector to non-agricultural may not be very helpful in view of the magnitude of the problem. A number of empirical studies of

disguised unemployment in various countries are also reviewed.

Chapter IV is concerned with agricultural underemployment in Uttar Pradesh. In this chapter there are three sections. The first deals with the economic profile of the State; Second with the efforts made by the Government during the Plan period in improving the situation of agricultural underemployment in the State and the third section contains a review of the empirical studies on agricultural underemployment in Uttar Pradesh, which tend to support the presence of surplus labour in its agricultural sector.

Chapter V deals with underemployment in agriculture in Gorakhpur district. In this chapter there are three Sections. The first section is concerned with the district and its importance in Uttar Pradesh with special reference to agriculture, second discribes the results of the investigation in selected villages namely, Ramghar Urf Chouri, Sonbarsa, Manokishunpur, Rantdandi, Khutbhar and Jaddupipra and the third estimates underemployment in the agricultural sector and its impact on district economy.

The study is brought to a close by summarising the findings and inferring some conclusions from it (Chapter VI). The main conclusions are:

(1) The higher percentage of underemployment in the agricultural sector of Uttar Pradesh is indicative of absence of

alternative employment opportunities particularly of a non-agricultural nature in the rural areas and the long slack period.

(2) It appears that an important aspect of underemployment is the seasonal unemployment between the slack and harvest period of time to which those engaged in agriculture are subject.

(3) Further, possibility of worsening the situation with continued growth of population in future is a threat to the economic development of the State.

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Chapter I

INTRODUCTION

1.1 THE PROBLEM

India is predominantly an agricultural country where most of the people depend upon agriculture and among cultivators, small and marginal farmers are in numerical majority.

There has been a general notion for a long time that traditional agriculture provides employment to many more persons than is necessary to produce a given level of output. This notion was very strong during the Fifties and Sixties particularly in India, and it was regarded as an almost established fact that the agricultural sector of a developing country, like India, suffers from a large scale disguised unemployment or underemployment.[1]

It was felt that the resulting surplus labour could be considered an asset and utilised for capital formation of the economy.[2] As Nurkse has said: "... the potential savings

1 For example United Nations, Measures for Economic Development of the Underdeveloped Countries, Department of Economic and Social Affairs, New York, 1951, p.3; D.S. Nag, Problems of Underdeveloped Economy, Educational Publishers, Agra, 1968, pp. 75-78.

2 See among others, N.A. Majumdar, 'Some Problems of Underemployment', Popular Book Depot, Bombay, 1961; P.N. Rosesentein Rodan, 'Disguised Unemployment', Monthly Bulletin of Agricultural Economics and Statistics, Vol.6, F.A.O. Rome, July-August, 1957, pp. 1-7; Benjamin Heggins, 'Employment Implication of the Application of Science and Technology, in less Developed Areas', Paper presented on Agenda Item B.4 for United Nations 1962; Sunil Guha, 'Rural Manpower and Capital Formation of India', Academic Books, New Delhi, 1969, p.79; Charls P. Kindleberger, 'Economic Development', New York, 1958, p. 142.

concealed in rural underemployment and purposes to mobilize the underemployment for capital formation."[3] On the other hand, thinking among a large number of economists has been that the surplus is illusory and that with improved agricultural techniques fuller use of the total supply of labour could be made.[4]

In the following pages we have attempted to study and analyze the problem of underemployment in Uttar Pradesh with our focus being on Gorakhpur district.

By virtue of the area it covers and its population, Uttar Pradesh occupies a prominent position in India's economy. According to the 1971 Census, it is first in population and fourth in area in India. In the State 86 per cent of the rural workers are engaged either as cultivators or as agricultural labourers and it is estimated that nearly 73 per cent of the total farmers own less than 5 acres of land. In urban areas, on the other hand, the proportion of urban workers engaged in agriculture is much smaller, around 12 to 15 per cent. More than two-thirds of the rural workers are self employed or own account workers or unpaid family workers. Overpopulation and underemployment in the agricultural sector of Uttar Pradesh appears to be one of the most important characteristics of the State economy.

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3 Ragnar Nurkse, 'Problems of Capital Formation in Underdeveloped Countries', Oxford, 1953, pp. 33-43.

4 Prafulla Sanghavi, 'Surplus Manpower in Agriculture and Economic Development', Asia Publishing House, Bombay, 1969, p. 248.

Among factors responsible for the agricultural under-employment in recent years mention may be made of increase in the supply of labour, limited opportunities of employment, lack of development in agriculture sector, seasonal fluctuations, cropping pattern and less use of high yielding varieties.[5]

1.2 HYPOTHESIS

We have made an attempt in the study to test the hypothesis that relative backwardness of agriculture in Uttar Pradesh during the period under consideration is largely due to the presence of acute underemployment in the sector.

There are reasons to believe that the problems of disguised and seasonal unemployment are present there with most of their characteristic manifestations. This has certainly proved to be a hinderance to the economic progress of Uttar Pradesh. It may be in order to note what Maurice Dobb has to say on this, "... Since agriculture is the prime source of the State's population, it would add much by way of efficiency and progress, provided we secure agriculture, stabilise it at dynamic levels of growth and productivity".[6]

1.3 PREVIOUS STUDIES

A number of economists have attempted to estimate the surplus agricultural workers both in India as a whole and in

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5 Daniel Thorner, "Agricultural Manpower in India ; Labourers", Economic Weekly, Vol.9, November, 1957.

6 Maurice Dobb, 'Some Aspects of Economic Development', Ranjit Printers and Publishers, Delhi, 1951, pp.39-45.

Uttar Pradesh.[7] Some of these will be reviewed in Chapter IV. These studies are, by and large, unsatisfactory for a variety of reasons. In any case, no study exists which deals with the problem of agricultural underemployment in Uttar Pradesh for the period we are concerned with.

1.4 SCOPE AND LIMITATIONS

This study has particular significance because very few attempts have been made to look at the problems of agricultural underemployment in Uttar Pradesh from the aspect of seasonality. Further no attempt so far has been made to look at the problem of agricultural underemployment and unemployment in Gorakhpur district.

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7 Tarlok Singh, 'Poverty and Social Change', Macmillan Company of India Ltd., Calcutta, 1945, pp. 107-33; Motilal Gupta 'Problems of Unemployment in India', Univ. of Rajasthan, Jaipur, 1955, pp. 26-30; N.A. Majumdar, op.cit., pp. 84-85; J.P. Bhattacharjee, "Underemployment among Indian farmers, An analysis of its nature and extent based on data for Bihar", Arthavijnana, Vol.3, September, 1961; Abdul Qayum, "Agricultural Underemployment in Uttar Pradesh", Economic Weekly, December 22, 1962, pp. 1060-63; Prafulla Sanghavi, op.cit., pp. 9-15; A.L. Agarwal, "Some aspect of rural unemployment: A statistical village study of Etawah, Uttar Pradesh", Indian Journal of Economics, Vol. 48, April, 1968, pp. 366-371; Ashok K. Singh, "Surplus manpower in Eastern Uttar Pradesh", Indian Journal of Labour Economics, Vol. 9, No. 4, January, 1967, pp. 462-475; R.D. Sharma and S.C. Mathur, "A Study of Surplus labour on small farms", The Balwant Vidyapeeth Journal of Agricultural and Scientific Research, Vol. XI, January, 1969, pp. 43-50; N.A. Sovani, "Underemployment Micro and Macro and Development Planning", Indian Economic Journal, April, 1955; Ashok Mathur, "The Anatomy of Disguised Unemployment", Oxford Economic Papers (New Series), Vol. 16, No. 2, July 1964, pp. 161-63; Depak Majumdar and M. Desai, "A test and hypothesis of disguised unemployment", Economica (New Series), Vol. XXXVII, No.145, February 1970, pp. 39-53.

The study covers the period of 13 years -- 1961-74. This period covers the Third and Fourth Five-Year Plans as well as the three intervening years of Plan holiday.

The concept of underemployment and its measurement are subject to serious limitations which are generally familiar to research workers. In addition to these the present study also suffers from the general lack of comprehensiveness and reliability which is characteristic of published statistics in India.

1.5 PLAN OF THE STUDY

The plan of study is as follows:

Chapter II deals with methodology and technique used in the study. Chapter III discusses analytical problems of agricultural underemployment in developing economies especially in the context of agricultural overpopulated countries. The next two chapters contain the main findings of the study. Chapter IV examines the problem of underemployment in agriculture in Uttar Pradesh. The next chapter (Chapter V) discusses the problem of agricultural underemployment in Gorakhpur district. Finally, Chapter VI presents the summary of findings and main conclusions of our study.

Chapter II

METHODOLOGY AND DATA

2.1 INTRODUCTION

The phenomenon of "surplus agricultural population" is so complex and intricate that it may not lend itself readily to a precise assessment of its magnitude with the help of tools designed to measure industrial unemployment. That is how the problem of evolving a technique specially suited to the conditions of agricultural unemployment and underemployment arose. A United Nations' Report, admitting that the quantitative measurement of underemployment is "difficult" writes: "We are not in a position to say to what extent they (Estimates of Surplus Agricultural Population) are accurate".[1] Referring to estimates of disguised unemployment, Ragnar Nurkse cautions, "Naturally estimates of this sort are highly uncertain".[2]

2.2 PROBLEM OF MEASUREMENT OF UNEMPLOYMENT AND UNDEREMPLOYMENT

In the discussion of underemployment it is generally the macro definition of disguised unemployment that is widely used. The situation of disguised unemployment is visualised as one where the labour force in agricultural sector is so numerous in relation to the resources with which they work that if a number of them are withdrawn for work in other sectors of economy the

1 United Nations, op. cit., p. 8.
2 Ragnar Nurkse, op. cit., p. 35.

total output would not diminish. It can be seen that this macro definition of disguised unemployment is formal and abstract. Thus though indispensable as an analytical tool it may not be quite helpful as a working concept in the measurement of unemployment and underemployment technique. For empirical study, it would be quite necessary to identify what part of the population is affected by disguised unemployment and to what degree.

This underlines the need for micro approach.[3] From the micro angle, land and capital at the disposal of self-employed cultivator and his family are too meagre to enable them to make full use of their available labour. On this basic fact is superimposed the seasonal character of agricultural operations. As a result the cultivators have irregular and insufficient work around the year. It is from this angle that the problem should be viewed and necessary primary data collected. Aggregates will have to be derived from these primary data. This micro approach would also be helpful in estimating the surplus agricultural population as a whole.

The problem of "hours of work" in agriculture has been the most elusive concept in economic literature. It is mainly because of this 'alternate tyranny of rush work and idleness in constant succession' that eight hour day or some such allied concept cannot be usefully applied to agriculture. Attempts, therefore, at measuring underemployment in terms of hours worked

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3 N.V. Sovani, op.cit., p. 68.

do not yield accurate and precise results. "In truth, the practical difficulties of applying anything that can be called and eight hour day in agriculture are so obvious that it becomes doubtful whether it is worthwhile embarassing public opinion with a discussion theoretically on the basis of eight hour day in agriculture."[4]

It is interesting to note that even in advanced countries very few statistics on hours actually worked in agriculture are available. An indication of hours worked in agriculture can, however, be obtained from countries which regulate the working day in farming; even there different forms which these regulations take, hinder the comparability of the data.[5]

It is generally known that in countries where there is no regulation, a working day of 10 hours is usual and at busy seasons of the year even one of 14 hours is not altogether uncommon. More realistically, "within the season the daily number of hours which can be worked is fixed by the length of the day-light; this factor is of great importance, as the difference in the length of summer varies considerably from latitude to latitude especially within those zones of the world which are the most important from the agricultural point of view."[6]

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4 N.A. Majumdar, op. cit., p. 78

5 For details of normal working hours in advanced countries, see N.A. Majumdar, op.cit., Appendix, p.90.

6 I.L.O., Labour in Agriculture, Geneva, 1945, p. 5.

In Uttar Pradesh, for example, the normal hours of work per day vary from 7 to 12.[7] This discussion shows that it is not only unrealistic to define a standard 8 hours day in agriculture but also that attempts to measure employment on land in terms of hours of work are likely to be frustrated by these complexities.

Even presuming that it is possible to obtain with precision the number of hours worked on farm, there would be the further question of deciding whether each hour of reported work was necessary. This may especially be important in the case of the work reported by self employed persons, because of various socio-economic factors, it is possible that an operation may be prolonged or spread over hours longer than necessary.

Another aspect of underemployment, as was pointed out, is the seasonal unemployment to which those engaged in agriculture are subjected. The highly seasonal character of farming operations creates a problem of seasonal unemployment of a large dimension in the less developed countries. While the number of working days required per year per unit of cultivation varies with the type of crop condition of the soil, method of cultivation, possibility of double cropping and many other factors, it can be said, on the whole, that agriculture in these countries is predominently a seasonal occupation in the sense that the cultivator is engaged on the farm for only a

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7 Monthly Bulletin of Statistics, Government of Uttar Pradesh, Allahabad, Vol.VII, 1953.

part of the year and there is a significant portion of the year when the farmer has practically no work on the farm at all. As the first Agricultural Labour Enquiry Committee revealed that an adult male agricultural labourer is employed on wages on an average, for 189 days in agricultural labour and 29 days in non-agricultural labour, or in all 218 days in a year.[8] Here, therefore, the problem is not merely on the finding out the aggregate number of days unemployed in a year. To recall, seasonality does not mean, as is generally supposed, that there are well-marked seasons during which there is continuous and full time work and season in which there is total unemployment. For a more meaningful assessment of seasonal unemployment, therefore, it would be useful, if the technique is so designed as to bring out these characteristics.

2.3 THE TECHNIQUE

In practice, the problem of measuring underemployment in agriculture sector falls in to two separate parts; (i) Wage-paid employment and (ii) self-employment.

In the case of those persons who fall under the category of wage-paid employment, the problem of measurement becomes relatively direct and simple. By a process of simple enumeration of the days on which a labourer is employed, the total number of days unemployed can easily be determined in all such

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8 Agricultural Labour Enquiry, Vol. I, New Delhi, p. 28, 1954.

cases. This solves the first part of the problem.

The crucial difficulty arises in regard to the self-employment category in which the overriding problem is the measurement underemployment and seasonal unemployment. While suggesting a "norm" with reference to which the intensity of employment is to be measured, the problem whether it should be "work norm" or "time norm" is always there.

2.3.1 THE "WORK NORM" METHOD

The "work norm" method used in terms of holding, that brings us to concept of "Standard Holding" which would be the "work norm" of full employment. A standard holding can be briefly described as "a holding which, under the existing conditions of techniques, provides full employment for a family of an average size working with such assistance as customary in agricultural operations".

It must be pointed out here that full employment thus defined is consistent with the seasonal unemployment to which all cultivators are subject. That is to say, even a farmer with a standard holding who is deemed to be fully employed, remains unemployed for a part of the year. Here again, there is the need to demarcate what is described as the "off season", in a more meaningful manner.

The size of such a holding, obviously, cannot be the same for all regions. It has to vary from region to region and also according to type of farming and crop etc. All the same,

the determination of such a holding with reference to a geographically homogeneous unit, it would not be difficult to arrive at such a standard unit. The assumption of existing techniques again is an important point. No change in the method of cultivation, in techniques of production or in organisation of agriculture are visualised.

When once the "work norm" is defined in terms of standard holding, the degree of employment can be measured against the "norms" so fixed, the ideal case being that of full employment, when work is done for the standard holding or above with the help of hired labourers. All other cases come under under-employment or more specifically disguised unemployment.[9] Thus with the help of this norm, it becomes possible to identify the disguised unemployment.

An illustration would help to clarify the position. Suppose the "work norm" is defined as X acres with reference to a particular village, then in the first instance, the families of the cultivators would be classified into two broad categories: (i) those cultivating 'X' acres and above; and (ii) those cultivating less than 'X' acres. Obviously, here while cultivators under category (i) are fully employed, all cases in category (ii) will come under disguised unemployment.

With the help of the size of cultivated holding, it might become possible to express the extent of present employment quantitatively in terms of the ratio of cultivated holding to

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9 N.A. Majumdar, op. cit., p. 84.

the defined holdings.

These two indices, one full employment and the other underemployment together will indicate the extent of additional employment needed in order that the underutilized labour of the farm family is fully utilized.

"The Work-Norm" - Used Concept of Standard Holdings; Determinants of Employment on Land.

Employment on land is a function of many factors, the more important among them being size of holding, quality of land, climatic conditions, crop pattern, capital intensity, etc. When, however, the reference is restricted to a geographically homogenous small region or, for that matter, to only a single village, many of these variables can be assumed to be constant. Employment on land will then be a function mainly of the size of the holding.

The same thing can be expressed symbolically as follows:[10]

If E = Extent of employment on land;
S = Size of holding
Q = Quality of land
M = Method of cultivation
C = Crop-pattern
I = Capital Intensity

then 'E' will be a function of all factors put together, i.e.,

$$E = f\ (S, Q, M, C, I, - - -)$$

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10 Ibid., pp. 82-83.

But so far as many particular villages are concerned Q, M and C can be taken as constants. Therefore,

$$E = f(S, I)$$

Thus, the extent of employment on land can be indicated by the size of holding duly weighted by capital intensity.

Degree of Disguised Unemployment

We may now proceed to illustrate the analysis of the phenomenon of disguised unemployment with the help of this method. The intensity of employment[11] may be quantitatively expressed by the ratio of the cultivated holding in question to the standard holding.

Conversely, the intensity of disguised unemployment can be given by the degree to which the actual holding falls short of the standard holding. To put it symbolically, if 'D' denotes the degree of disguised unemployment, 'S' the standard holding and 'C' the actual cultivated holding of each family, then a broad indication of the degree of disguised unemployment can be given by the following formula:

$$D = \frac{S-C}{S}$$

It may be noted that when S = C the value of 'D' will be zero. That is when the cultivated holding equals the standard unit, there will be full employment for the cultivator.

11 Ibid., pp. 212-13.

2.3.2 THE "TIME NORM" METHOD

The other method for estimation of seasonal unemployment of the cultivators in the agricultural sector of the state is that of "Time-Norm". The approximate number of days of employment monthwise and the normal working hours per day monthwise, looking the land holdings, crop pattern, irrigational facilities, methods and techniques of cultivation, etc., are obtained from them through personal interviews. This estimated data of number of days and working hours are helpful in formulating a fairly correct idea of the magnitude of employment in each village. These are then compared with the standard "Time-Norm" of 300 days or 50 weeks in an agricultural year and 8 hours each day to arrive at estimates of the extent of unemployment or "surplus working force".[12]

2.4 LIMITATIONS

Such an assessment of underemployment therefore, indicates (i) how many are underemployed? (ii) to what extent they are underemployed? This indication becomes possible because those unemployed in disguise are in a position to take up additional employment in the same sector and not outside, unless there is a radical change in the technique and organisation of agriculture. This approach thus, takes into account the 'reality of social and economic structure' which the "Time-Norm" ignores. It is

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12 S. Mehra, "Surplus Labour in India Agriculture", The Indian Economic Review, April 1966, p. 115; Government of India, "Agricultural Labour in India", Report of the Second Enquiry, 1962, Vol.I, pp. 405-6.

in this sense therefore that the "Work-Norm" does not suffer from the short-comings of a "Time-Norm" method.

While calculating the degree of disguised unemployment, the underlying presumption here is that employment on land varies almost indirect proportion to the size of the holding. It should be, however, pointed out that there are some operations which could be considered as "over heads", i.e., which may not vary with the variation in size. Time spent on going to field, or on watching the crops are instances in point. In the large content of the total volume of employment on land, however, such operations might not form any significant part. Moreover, the formula should also, be viewed move as indicator or order of magnitude than as anything else having high precission.

Again, intensity of employment also takes into account only the labour quantum put in, it does not link the labour input to its remuneration in cash or kind

2.5 METHOD AND DATA USED IN THE PRESENT STUDY

The above methods, "Work-Norm" and "Time-Norm" have, therefore, been used to broadly assess the dimensions of both facets of underemployment, the disguised and the seasonal for each family included in the survey. Such individual family measurements of the degree of unemployment have been consolidated in to convenient distributions for each village and for all the villages in the aggregate. The estimates are also compared with each estimates to reinforce and verify the

findings of both the methods.

The data are based on secondary as well as primary sources. The secondary data have been collected mainly from government reports, seminar reports and research journals. Some statistics have also been gathered from relevant records of blocks and tehsils.

Further for intensive study of Gorakhpur district, primary data were gathered by field investigation, including discussions with experienced cultivators, village level workers, Block Development Officers, etc.

Chapter III

AGRICULTURAL UNDEREMPLOYMENT IN DEVELOPING ECONOMIES

3.1 INTRODUCTION

Many developing economies are faced with a problem of persistent unemployment and underemployment, bulk of which is located in agriculture. A major cause is over crowded agriculture. This situation prevails in a large part of Asia, some areas of Middle East, South Europe and Latin America. In all these areas most farms are too small to make full and effective use of all the available resources.[1]

Most of the regions with surplus population in agriculture are situated in the tropical zone. Agriculture in the tropical zones is a more hazardous and less productive enterprise than in the temperate zones. Consequently, irrigation assumes exceptional importance in tropical agriculture and an irrigated acre of land produces about three times as much as an acre of dry land. Besides,the nature of tropical rainfall creates serious problems of floods and soil erosion.[2]

In this chapter an attempt is made to survey the problem of underemployment in agriculture especially in the context of

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1 International Labour Organisation (I.L.O.), Employment Objective in Economic Development, Report of a Meeting of Experts, Geneva, 1961, pp.16-17.

2 Prafulla Sanghvi, op.cit., p.5.

over populated developing countries. Section 3.2 examines the theoretical foundations of underemployment. Section 3.3 deals with some recent empirical studies of underemployment in developing economies. Section 3.4 reports the broad conclusions of similar studies on India. Finally section 3.5 makes some concluding observations on the chapter content.

3.2 THE THEORETICAL FOUNDATIONS OF AGRICULTURAL UNDEREMPLOYMENT IN DEVELOPING ECONOMIES

Habler opines that "What I think is wrong with the theory of disguised unemployment by stating positively what in my opinion is actually true in varying degrees in various countries, not only in underdeveloped but in developed countries as well: If it were possible to improve methods of production in agriculture; if the skill of farm labourers is increased; if social habits could be changed, a new spirit implanted and the resistance to moving to land living incited and to working in factories could be changed so as to working in factories could be overcome; if technology in industry could be changed so as to employ unskilled rural workers; if capital and other cooperating factors could be provided in large quantities and better quality; if and to the extent that all these things happen or are done, agriculture can release a lot of labour without loss of output and industrial output be stepped up at the same time."[3]

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3 Gottfried Habler, "Critical observations on some current nations in the theory of economic development", L'Industria, No.2, 1957, pp. 3-5, reproduced in Gerald M. Meier (Ed.), Leading Issues in Development Economics; Selected materials and commentary, Oxford University Press, Oxford, 1964, p. 78.

Surplus manpower in agriculture is often described as disguised unemployment[4] or underemployment and defined as the existence of a portion of labour force which can be removed without reducing output.[5]

Some studies[6] presented statistical data for China, Eastern and South-Eastern Europe, to suggest that a large percentage of

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4 The term "disguised unemployment" was originally used by Mrs. Joan Robinson in 1936 to describe a situation of inadequate aggregate effective demand in which workers were forced to take up low productivity jobs of a type inferior to those for which they were suitable and technically qualified, see Joan Robinson, 'Disguised Unemployment', Economic Journal, Vol. 46, June, 1936, pp. 225-237

5 For example, United Nations, 'National and International Measures for Full Employment', New York, 1950; Ragner Nurkse, op.cit., p. 33; Alferdo Navarrate and M. de Navarrate, "Underemployment in Underdeveloped Economies", International Economic Papers, Vol. III, 1953, pp. 235-239; Harvey Leibenstein, "Theory of underemployment in backward Economies", Journal of Political Economy, Vol. 65, April 1957; Profulla Sanghavi, op.cit., Chapters II, III; P.N. Rasenstein Rodan, op. cit., p. 7; Gunnar Myrdal, 'Asian Drama', Vol. III, Chapter 26, p. 1255; Arthur Lewis, 'Economic Development with unlimited supplies of labour', The Manchestar School, May 1965, pp. 139-162; K.N. Raj, 'Employment aspects of planning in underdeveloped economies, Cairo, 1957; Chiang Hasieh, "Underemployment in Asia: Nature and Extent", International Labour Review, Vol. 55January-June, 1952, pp. 703-25; G. Ramis and J.C. Fei, "A theory of economic development", American Economic Review, Vol. 51, September 1961, pp. 538-65; R.S. Eckaus, "Factor Proportion in Underdeveloped Countries, American Economic Review, Vol. 45, September, 1955, pp. 539-65.

6 John Lossing Buck, 'Chinese Farm Economy', The University of Chicago Press, Chicago, 1930; Warriner Dorean, 'Economics of Peasant Farming', Oxford University Press, London, 1939; P.N. Rosenstein Rodan, "Problems of Industrialization of Eastern and South-eastern Europe", Economic Journal, Vol.93, June-September, 1943, pp. 202-211; K. Mandelbaum, 'Industrialisation of Backward Areas', Basil Blackwell and Molt, Ltd., Oxford, 1945.

agricultural labour were idle or redundant for substantial periods of the year. In 1945 Mandelbaum estimated that "about 27 per cent of active rural workers in Greece, Yogoslavia, Poland, Rumania and Bulgaria were redundant."[7] After that he presented a "Mechanical Model" of planned industrialization to absorb the surplus labour within one generation. In fact the widely quoted United Nations Report in 1951 by a group of experts including W. Arther Lewis, T.W. Schultz and U.R. Gadgil, cited these studies and added that it seems "safe to assume that for many regions of India and Pakistan, and for certain parts of the Philippines and Indonesia, the surplus rural population cannot be less than the pre-War average for East European region (20-25 per cent)."[8]

Most of the economists[9] like, Nurks Lewis, Nav rrate, Eckaus and others support the views of zero marginal productivity of labour or surplus labour in underdeveloped agriculture. Eckaus[10] explained the other factors like limited technical substitutability of factor of production in agriculture also responsible in the existence of disguised unemployment.

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7 Mandelbaum, ibid., p. 2.

8 United Nations, Measures for Economic Development of Underdeveloped Countries, op.cit., p. 4.

9 See, for reference, foot note 5.

10 Eckaus, op. cit., p. 556

Concerted opposition[11] to disguised unemployment came from Koestner, Schultz, Viner and Khusro. Egyptian economist Koestner was among the first who criticized disguised unemployment doctrine. Khusro criticised the Nurkse ideas that development could be initiated by forming capital through employment of redundant rural labour. While Schultz cited examples in Latin American countries where the removal of agricultural labour resulted in a decline in output, Viner was strong opponent of disguised unemployment who criticised Eckaus that the limited technical substitutability of factors of production is not strong reason in explaining disguised unemployment.

Some of the relevant questions which must be answered before the hypothesis of zero marginal productivity of labour could be accepted are: (i) if labour is unemployed or otherwise wasted, why are techniques not introduced which useless land and capital relative to labour, (ii) with given technology (fixed capital,land labour ratio), why is labour used to the point where no returns are forthcoming? Employers of hired

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11 N.Koestner, "Comments on Professor Nurkse's Capital Accumulation in Underdeveloped Countries", L'Egypte Contemporine, Vol.44, pp.1-8,Cairo,April, 1953, reproduced in Eicher and Witt (Ed.), 'Agriculture in Economic Development', McGraw-Hill Book Co., New York, 1964, p.131; Theodre W. Schultz, the Doctrine of Agriculture Labour of Zero Value', 'Transforming Traditional Agriculture', Yale University Press, New Haven, Conn., p.70,1964; Jacob Viner, "Some reflection on the concept of disguised unemployment", Indian Jour. of Economics, Vol.38, July 1957, pp.17-23; A.M. Khusro, 'Economic Development with no population Transfers', Asia Publishing House, New Delhi, 1962, pp.2-5.

labour lose money when they pay a wage to labour whose product is zero or negligible. The self employed who produce nothing would do better to hire out their surplus labour for a wage, (iii) why are wages higher than marginal product? If large number of people produce nothing or very little, wages normally would be bid down to the marginal product of labour.

Several economists deal with one or more of the above questions in this manner. Eckaus[12] described that disguised unemployment exists when, "with agricultural techniques remaining unchanged withdrawl of farm family labour would not reduce output." He then asks why if labour is in surplus, more labour intensive techniques are not in use. He believes that even the most labour intensive agricultural process requires some minimum amount of capital per unit of labour, there is some minimum ratio of capital to labour, but many underdeveloped nations have less capital than is required to utilize their whole labour force. Hence, a portion of the available labour supply is unused. Eckaus left it to others to explain why labour is used until its marginal productivity is zero but continues to be paid a positive wage.

Lewis,[13] analyses the relationship between the subsistence and capitalist sectors of an underdeveloped country. The rural labour surplus is disguised in the sense that every one is

12 Eckaus, op. cit., p. 545.

13 Lewis, op. cit., pp. 139-192.

working out if some proportion is withdrawn, output will not fall; the remaining worker just work harder. The urban surplus labour is openly unemployed, porters waiting for the next ship to come in, retail traders waiting for customer, messengers sitting in the courtyard. Workers, rural and urban, do not receive their marginal product, but a higher traditional wage. Labour employed in the capitalist sector is also paid the traditional wage as long as there is a surplus of labour in the subsistence sector.

Lewis' chief contribution to the concept of disguised unemployment is his explanation of the existence of a greater than zero wage when the marginal product of labour is zero. He explains by tradition and lack of alternatives the existence of selfemployed labour which receives a positive wage but whose marginal product is negligible. In peasant agriculture, each family member receives the family's average product regardless of his contribution. Since there are no opportunities for receiving a wage higher than the average product on the family farm, there is no motivation to leave the farm and the average product will be greater than marginal product.

Ranis and Fei[14] present an ingeniously elaborate model that may be regarded as a variant of the Lewis model. They give considerable emphasis to the reinvestment of profits in industry. In fact, the central aspect of their model is the financing of industrialisation from an agricultural 'Surplus',

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14 Ranis and Fei, op. cit., pp. 533-58.

a surplus of income as well as labour. They further explain that as surplus workers leave the agriculture sector, consumption per capita among those remaining remains constant. Thus the food previously consumed by the workers who leave, is sold to the industrial sector, where the same workers buy it on the market out of their industrial wages. But all of the income received by cultivators from its sale is saved.[15]

Leibenstein[16] provides another explanation of a greater than zero wage rate. When labour is unemployed and the labour market is competitive, wages would be bid down to very low levels. He explains the phenomenon of greater than zero wages through an interaction between labour product and wage rates.

Nurkse[17] associates disguised unemployment with zero marginal product of labour when some organisational changes are introduced. If minor changes such as consolidation of land holdings are permitted then a substantial amount of agricultural labour can be used in other projects, such as building, dams

15 "So far as this direct effect is concerned, the level of income elsewhere in agriculture remains unchanged, and labour continues to be available at the subsistance plus wage. However, food consumption in the families from which members depart will rise.(This is the effect which Lewis fails to consider). So Lewis' assumption of an unlimited supply of labour is a classical one". Everett E. Hagen, 'The Economics of Development', Richard, D. Irwin Inc., Homewood, Ill., 1968, pp. 304-306.

16 Leibenstein, op. cit., pp. 91-103.

17 Nurkse, op. cit., pp. 38-39.

and rural roads. He suggests that through reorganisation enough labour time can be saved to make feasible the utilization of labour in other capacities.

A study by Khusro[18] rules out the applicability of the growth model of Nurkse and Lewis in so far as they base the policy of industrialisation on the exploitation of the saving potential inherent in the disguised unemployment associated with agriculture in the underdeveloped countries. In his opinion the modern sector should absorb surplus labour from subsistence sector, to promote development. A very real and serious difficulty is the supply of food necessary for additional industrial employment.

If only the food consumed by these unproductive workers could be transported to their new locations and made available to them, the most serious impediment to growth would be got out of the way.

While the strategy of transferring men who are not doing anything useful to sectors, where they might be something is obviously sound, there has been an awareness on the part of Nurkse as well as others, of some pitfalls in such a strategy. Nurkse had noted that when some men are transferred away from the farms, those who are left on the farms may consume more than before, so that the surplus or saving potential will be less by the extent of increased consumption. Secondly, those

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18 A.M. Khusro, op. cit., pp. 2-5, 46-47.

who are transfered to urban industrial areas perhaps working with greater regularity and under conditions of industrial discipline and strain, may consume more food than before. Thirdly, there are costs of transfer of food which Nurkse mentioned and the cost of transfer of men which he did not. The surplus that remains to be transfered does not match the normal demand for food by the transfered workers.

There is possibility of yet another pitfall. The transfered workers will require some capital to work with. This will come from the savings of the non-agricultural sector. Savings which are admittedly in short supply for underdeveloped economies, and hence have to be most economically used as they could have gone into alternative use if they had not been used as capital required by the transferred men in new ventures.

When transferred workers are employed in non-agricultural occupations, they are given a wage at the end of the working day or week or month. As they spend the wage on food, stocks of food get depleted and prices tend to rise. Attracted by these higher prices, producers of food may presumably market a large proportion of their crops or indeed grow more food and market it. But a little reflection (as well as empirical evidence) shows that it is a far cry from increase of food prices to the actual availability of food in the non-agricultural sector. At least three serious leakages can be easily discerned:

(i) In the first place, the price insensitivity of farmers and the consequent price inelasticity of supply in under-developed agriculture is a well-known phenomenon. Thus food prices will rise but food production might fall to oblige to any significant extent.

(ii) Even production of some farmers might be reduced owing to increased food prices. In other words in some cases at least the backward sloping curve of agricultural supply may manifest itself; and to the extent this happens, the price machanism will fail to deliver the goods. Food will not reach the non-agriculture sector in desired quantities and inflation will continue.

(iii) Finally, there is a hoarding propensity of farmers, wholesale traders and retail traders to contend with. Rising food prices, consequent upon transfers of workers, may easily lead to expectations of further price increase.

Mellor's[19] approach to disguised unemployed assumes a deficiency of demand. He argues that the peasant in under-developed country works hard to achieve some traditionally determined minimum standard of living, but has no motivation for increasing his income above that level because of tradition bound consumption patterns.

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19 John W. Mellor, "The use of productivity of farm family labour in early stages of agricultural development", Journal of Farm Economics, Vol. 45, August, 1963, pp. 517-34.

3.3 EMPIRICAL STUDIES OF DISGUISED UNEMPLOYMENT

A number of empirical studies of disguised unemployment in various countries have been made. Some of the important among them will be surveyed in the following pages. The discussion will centre, in the main, on two aspects: the methodology adopted and their empirical results.

Study on Thailand

Mellor and Stevens[20] undertook a study of the average and marginal product of farm labour in Thailand, which was based on labour income records obtained by personal interviews in 104 rice farms at Bangchan, Thailand. All farms were assumed to have a identical rice production function. The total output of rice was estimated with a high degree of accuracy because most of the rice was taken to the local miller for polishing. Labour inputs[21] were measured in terms of man equivalents on the basis of interviews concerning the number of persons available for farm work on each farm. In fact the study suggested that yields can be raised by greater use of labour.

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20 John W. Mellor and Robert D. Stevens, "The average and marginal product of farm labour in underdeveloped economies", Journal of Farm Economics, Vol. 38, August, 1956, pp. 780-791.

21 Rephrase: Oshima is critical of the conclusions of this study mainly on grounds of methodology and regards it as in conclusive for either theoretical or policy use. For details see, Harry T. Oshima, "Under employment in backward economies: An Empirical Comment", Journal of Political Economy, Vol. 66, June, 1958, pp. 259-264.

Study on Southern Italy

In 1957, Rosenstein-Rodan[22] wrote that it was his firm belief that disguised unemployment of more than 5 per cent existed in many, though not all over populated countries; he supported this belief by measuring disguised unemployment in Southern Italy. According to them the amount of population in agriculture, which can be removed without any change in the method of cultivation and without leading to any reduction in output. Hence, the marginal product is zero or disguised unemployment.

The following major assumptions and criteria were used;

(i) only agricultural small holdings of peasant owners and tenants were included;

(ii) the active population was assumed to be between fourteen and sixty-five years of age;

(iii) surplus workers were assumed to be involuntarily unemployed;

(iv) labour hours required for each type of cultivation over the whole year, month by month, were counted and compared with available labour hours. An average of 270 available work-days per year was assumed;

(v) a distribution was made between (a) removable disguised underemployment or disguised unemployment; (b) seasonal under-

22 P.N. Rosenstein-Rodan, op. cit., pp. 1-7.

employment due to climatic factors. These distinctions were taken into account in calculating the number of labourers affected by disguised unemployment; and

(vi) a slight deviation from the rigid concept was allowed in the analysis.

The author used the direct method of questionnaire to distinguish different types of cultivation, different size and forms of property, the composition of the labour force, and the number of labour hours required and supplied. Rosenstein-Rodan observed that "in Southern Italy around 10 to 12 per cent of the actual population in agriculture are removable. He is including among the removable surplus the individuals who are needed for 50 days or less. If the more rigid definition which is also the more sensible one, is adopted, the removable surplus is reduced to 5 per cent."[23]

Study on Greece

The macro level study of Pepelasis and Yotopoulos[24] was designed to measure the volume of removable surplus labour as

23 Carl Eicher and Lawerence Witt (Ed.), 'Agriculture in Economic Development', McGraw-Hill Book Company, New York, 1964, Chapter VII, p. 139, reproduced from Berdj Kenadjian, "Disguised unemployment in underdeveloped countries," Unpublished Doctoral Dissertation.

24 Adam A. Pepelasis and Pan A. Yotopoulos: Surplus Labour in Greek Agriculture, 1953-1960, Centre of Economic Research, Research Monography Series 2, Athens, Greece, 1962, pp. 86-138. Reproduced in Agriculture in Economic Development, Edited by Eicher and Witt, Chapter VII, pp. 140-141, McGraw-Hill Book Company, New York, 1964.

well as the seasonal surplus labour in Greek agriculture for the period 1953-1960. The authors measured surplus labour by comparing the labour available with the labour required for a given volume of output within the agriculture sector. The indirect method, using secondary data, was employed to derive estimates of labour availability and labour requirements.

Separate estimates of the annual agricultural labour requirements for farming, husbandary, forestry, fishing and agricultural transport were computed. Given each year's agricultural activities, Pepelasis and Yotopoulos derived annual labour requirements by product by applying a "Labour-intensity coefficient",that is, a labour/land and/or a labour-capital output ratio. The Labour coefficient were "expressed in terms of man and supplementary nine-hour work days estimated to be used per stremma of animal or unit of output to produce the given volume of agricultural output of the year". The authors found that "chronic (removable) surplus labour in Greek agriculture is virtually non-existent. In the eight years of study it existed only in 1953 and 1954 to a degree of 3.5 and 2.3 respectively. The other years of the period are marked by a seasonal shortage of labour; therefore, it cannot exactly determine how much chronic surplus labour is feasible to remove, its size can only be determined through a disaggregative microeconomic investigation based on the direct method of studying a sample of farm households". The important point of this study is the non-existence of disguised unemployment in

Greek agriculture during 1955-60.

Study on Ghana

International Labour Organisation (ILO) appointed an expert in 1957-58 to investigate the development of an employment information programme[25] in Ghana where most of about 80 per cent of population was engaged in agriculture and agricultural allied activities. It was reported that "there is virtually no completely unemployed agricultural labour, although under-employment is fairly common, as a result both of seasonality and low levels of production, because much of the farming in Ghana is seasonal between April, September and October (when harvesting is completed)." During the off-season a large number of farmers from the north migrated to the southern region of Ghana in season of manual employment. In Cocoa farming the main crop is harvested from October to February and the mid-season crop from April to July. This means that employment is rather more evenly spread throughout the year.

Study on Indonesia

A Labour Force Sample Survey of Indonesia was conducted in 1958 with the help of I.L.O. technical assistance.[26] The Survey

25 I.L.O., Expanded Programme of Technical Assistance, Report to the Government of Ghana on the Development of an Employment Programme, Geneva, 1959.

26 I.L.O., Employment objectives in Economic Development, Geneva, 1961.

consisted of the study of a sample of 10,700 rural and 1,300 urban households, rural being defined as a locality with less than 50,000 inhabitants and urban as one with 50,000 or more.

In agriculture, according to the estimates of the Survey, there were 15.74 million persons aged 12 years and over at work in the peak season of the agricultural year of whom 7.37 million worked for seven hours or more per day, 7.10 million four to six hours and the remaining 1.27 million for one to three hours. The estimated number of man-hours of work in both seasons worked out at 22,352.9 million. If, however, all 15.74 million workers had full employment for 305 days in the year, and if they had worked for seven hours a day, the total number of man-hours would have been 33,604.9 million. The maximum under-employment in agriculture would thus seem to be 11,252.5 million man-hours or 33 per cent. This rough figure, of course, takes no account of the fact that many of the 15.7 million persons engaged in agriculture in the peak season were not actually available for employment for seven hours per day all the year round.

Study on Philippines

Several rounds of a sample survey of households were conducted between October 1956 and March 1957 and May 1957 in the Philippines[27] with the object of collecting comprehensive information various aspect of the labour force.

27 I.L.O., op.cit., 1961, pp. 189-92.

The concept of underemployment of workers used in this study was very different from those adopted by other surveys. Persons working below than 40 hours a week or above, who wanted additional work were considered invariably underemployment. In October 1956 the number of people working less than 40 hours a week and seeking additional work was 1.6 million. In May 1957 the figure still stood at 1.4 million. Underemployment, as could be expected, was more serious among agricultural workers than among non-agricultural workers, but the difference was not large.

Studies on India

Few attempts have been made to study the problem of agricultural underemployment in India. It is only after independence that an interest has been shown in the problem resulting in some studies. More important among them are - Schultz studied in influenza epidemic of 1918-19 in India to test the hypothesis that the marginal product of a part of the labour force in agriculture was zero.[28] Schultz estimated the existance of disguised unemployment by comparing the reduction in average sown with the reduction in the labour force. Such a comparison assumes that if any disguised unemployment exists, the acreage sown will not be reduced as a result of a sudden reduction in the labour force. The rationale for such a comparison was, "where there are many people relative to land

28 Schultz, op.cit., pp. 6-9.

and much land is cultivated intensively, the expectation would be that acreage sown would be less sensitive to a decrease in the labour force than the total yield", therefore, the acreage sown "would be a more decisive test than a reduction of the same percentage in agricultural production.[29] Schultz found that the agricultural labour force in India was reduced by about 9 per cent.

Majumdar in his study of 'Some Problems of Under-employment' studied two facets of underemployment in agriculture, namely disguised and seasonal unemployment.[30]

Field investigations covering three months in 1954-55 were conducted in nine selected villages of Bombay and Karnataka regions to measure the degree of disguised unemployment. The author interviewed village officers and studied village records to determine the population, occupations, land use, number of live stock, labour movements, work schedule and standard cultivated holdings in each village. He intensively interviewed twenty-five families in each village to determine family size, occupation, source of income, size of holdings and annual work schedule.

Majumdar found in his study of small farmers that 71

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29 Schultz, op. cit., p. 11.

30 N.A. Majumdar, op. cit., pp. 83-269.

per cent of farmers were affected by disguised unemployment, and could be removed from the region without lowering production. He felt no need to estimate the productivity of farm or the productivity of the groups, using the standard holdings approach to underemployment. This is defined as "taking the size of labour force as given, disguised unemployment may be described as a situation in which the withdrawl of a certain quantity of the factor labour to other uses will not diminish the total output of the sector from which it is withdrawn, given a measure of reorganisation in sector."

Three agricultural and rural labour enquiries were conducted by the Government of India in 1950-51, 1956-57 and 1963-64 with the main objective of collecting information on certain socio-economic conditions of agricultural labourers (workers) in rural areas. The first conducted in 1950-51 studied a sample of 11,000 agricultural labour families spread over 800 villages, second in 1956-57 covered 21,000 agricultural families in 3,600 villages. In 1963-64 the scope of enquiry was entended to include other rural labour household covering over 37,000 household[31] in 8,500 villages.

Table 3.1 makes a comparative study of the scope, methodelogy and the main findings of each of their enquiries.

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31 A house hold is difined as a group of persons who commonly live together and would take their meals from a common kitchen and help in their family work.

TABLE 3.1

Agricultural and Rural Labour Enquiries in India - A Comparative Chart

Item	First Agricultural Labour Enquiry (1950-51)	Second Agricultural Labour Enquiry (1956-57)	Rural Labour Enquiry (1963-64)
1 Coverage	These enquiries were conducted in a fixed set of 800 villages for a period of 12 months.	These were conducted in about 3,600 villages, which formed a moving set of villages, evenly over a period of 12 months.	These were conducted for about 37,000 rural households in 8,5000 villages.
2 Data Collected	Data were collected on wages, income, expenditure, indebtedness and employment and unemployment of agricultural labour families on a monthly basis.	Data collected more or less on the same lines as First Agricultural Labour Enquiry.	Data on wages, expenditure, farm employment were collected of agricultural and rural labourers.
3 Definition of agricultural labour	A household was considered to be an agricultural labour household if the major part of earnings of household was derived by members working as agricultural labourers. An agricultural labour family was defined as one in which either the head of the family or 50 per cent or more of the earners reported agricultural labour as their main occupation. The main occupations of the person was one in which he was engaged for 50 per cent or more of the total number of the days worked by him during the previous year.	Agricultural labour was defined to include labour not only employed in crop production but also in other agricultural occupations, such as dairy, farming, horticulture, raising of livestock, bee farming or poultry farming, etc. Any agricultural labour family was defined as one which derived a major portion of its income from agricultural wages.	According to the Rural Labour Enquiry an agricultural labour household is one which derives a major portion of its income from wage-paid employment in agricultural operation.

(Contd.)

TABLE 3.1 (Contd.)

4 Methodology	No meticulous attempt was made to measure the varied economic activities in quantitative form. Employment data were collected only for those adult male workers who reported wage employment in each month. In the case of workers who did not report wage employment in each month, it was assumed that they were selfemployed for half of the period and unemployed for the other half. Wage employment for half of the day and less than half was ignored. Data on selfemployment were not collected separately, but was obtained by inference as the residual left after deducting wage employment and unemployment for 365 days.	Total number of days spent in different types of activities was recorded separately under suitable intensities of employment classification. The number of workers was calculated after assigning proper weightage to part employment. The data on unemployment were obtained as a residual after deducting employment and selfemployment for 365 days.	Same as in the Second Agricultural Labour Enquiry.
5 Findings	Average annual income of an agricultural household was Rs.447. Unemployment among adult male agricultural worker was 98 days on the assumption that on an average 14 per cent of adult male agricultural workers who were not engaged in wage-paid employment throughout the year.	Average annual income of an agricultural labour household was Rs.437 that decreased by Rs.10 from 1950-51. Adult women were unemployed on India level for 196 days in a year as comparable to 128 days of unemployment for male workers.	Average annual income of an agricultural labour household had gone upto Rs.660, that is about 51 per cent. During this period the income from cultivation of land per household increased by 41.5 per cent, income from wage-paid annual employment increased by 53.7 per cent. Women agricultural labourers were unemployed for a greater number of days when compared to male agricultural labourers. Women agricultural workers were unemployed due to want of work for 96 days in a year and were not at work for 24 days due to sickness, bad weather, etc.

3.4 CONCLUDING REMARKS

The foregoing review of studies of agricultural unemployment and underemployment in India and elsewhere seems to suggest its presence in varying degrees and form. The conclusion appears to be warranted that the agricultural sector in developing economies, by and large, serves as a refuge to their surplus population without a corresponding increase in output. In this context the approach of the developmental models with their implicit employment policy aiming at transferring workers from the agricultural sector to the non-agricultural may not be very helpful in view of the magnitude of the problem.

Chapter IV

AGRICULTURAL UNDEREMPLOYMENT IN UTTAR PRADESH

4.1 INTRODUCTION

The previous chapter has reviewed some of the national studies on agricultural underemployment in developing economies including India. Now it is equally necessary to view the whole problem of agricultural underemployment in Uttar Pradesh. Unemployment and underemployment are well known endemic features of our rural economy, self employment in State agriculture tends to be characterised by severe underemployment because of small size of holdings, heavy pressure of population on land, seasonal variations and lack of adequate alternative avenues of employment.

The first section deals with the economic profile of Uttar Pradesh and importance of agriculture in the State economy. Secondly,the problem of unemployment and the underemployment in the agriculture in Uttar Pradesh during Five Year Plans, and the lastly, investigations in few selected villages in different parts of the State.

SECTION I

ECONOMIC PROFILE OF THE STATE

The economy of a region depends to a considerable extent on its physical environments. Natural resources materially condition the progress or backwardness of the region. With such a large segment of population of India living within its boundaries, economic development of Uttar Pradesh assumes special significance. By the sheer weight of its naturally affect the average level of living of the country as a whole.

4.2 PHYSIOGRAPHY

Although Uttar Pradesh as a whole is a backward State, yet there are certain regions where backwardness is all the more conspicuous. Among these are the eastern districts, the Bundelkhand Divisions and the hill districts.[1]

In Bundelkhand Division a large part is not fit for cultivation on account of its hilly terrain. The agricultural productivity of this region is lower than the State average on account of low fertility of the soil and lack of irrigational facilities. The region is also deficient in drinking water facilities.[2]

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1 Kripa Shanker, 'Economic Development of Uttar Pradesh', Arthik Anusandhan Kendra, Allahabad, 1970, p. 9.

2 M.D. Joshi, Seminar on "Backwardness of Uttar Pradesh", Thinker's Forum (under the auspices of Bharat Seva Sansthan, Lucknow), 16 March, 1972, p. 20.

In the hill region the problems of transportation and communications, irrigation, drinking water and unemployment are particularly acute. Floods are a regular feature in Uttar Pradesh. Practically every year, vast areas are inundated. This causes damage to crops and takes a heavy toll of cattle, and human life. Every year about 10 lakh hectares land are affected in low flood and 40 lakh hectares land during a year of high flood.[3]

So far as minerals are concerned, Uttar Pradesh is not well off in this respect. Some mineral deposits like bauxite, dolomite, iron ore, gypsum, limestone, coal and copper ore are found in the Northern Himalayan districts and the districts of Mirzapur, Jhansi and Banda.

The State of Uttar Pradesh stands fifth in respect of forest area among all the States of the country. The area under forests in Uttar Pradesh works out to 16.83 per cent of the total geographical area in the State as compared to 22.98 per cent in India and the per capita forest area in Uttar Pradesh is only 0.06 hectare, as against 0.15 hectare in the country. The State is, therefore, deficient particularly in forests.[4]

The literacy rate in the State at the 1971 Census comes to 21.64 per cent, the respective percentages of literacy among

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3 Draft Fifth Five Year Plan, Uttar Pradesh, Vol.I, Planning Department of Uttar Pradesh, 1973, p. 13.

4 Ibid., p. 22.

males and females being 31.74 and 10.20. The low level of education in Uttar Pradesh is not merely and index of its backwardness but also an impediment in its growth. (The per capita expenditure on education in Uttar Pradesh was Rs. 6.36 in 1967-68 as against all India average of Rs. 10.37). On medical care and public health for 1967-68 per capita expenditure in Uttar Pradesh was Rs. 1.27 and 1.12 as against the corresponding all India average of Rs. 2.44 and 1.64 respectively.[5]

4.3 GENERAL POPULATION

The population of Uttar Pradesh, according to the Census data of 1971, workes out at 883 lakh of which 469 lakh are males and 414 lakh females. The number of females per thousand male is 883. The population of the State constitutes 16.1 per cent of India's population though it extends over only 9.1 per cent of the total area of the country. The population has registered a greater rate of growth (19.73 per cent) during the decade 1961-71 as compared to the previous decade of 1951-61, when the population of the State rose by 16.66 per cent.[6] It may be interesting to note that Uttar Pradesh has more population than most of the countries of the world.

Density of population in Uttar Pradesh is one of the highest in the world. (The State's population has higher rural composition

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5 Fifth Finance Commission of India, 1969.

6 Census of India, 1971 (Uttar Pradesh), Series 18, Part I, Provisional Population Totals, 1971, p. 22.

compared to all India. According to Census of 1971, 86 per cent of State's total population lived in villages,compared to about 75 per cent for the entire country). Within the State the eastern region has the highest density of population and has the lowest cultivable area per worker. The percentage of rural population is very high in this region,for instance it is 98.5 per cent in Basti district, 97.6 per cent in Deoria and 96.6 per cent in Ghazipur.[7]

4.4 LIVELIHOOD PATTERN

The whole State is characterized by high density of population completely dependent on agriculture, small and scattered agricultural holdings, low agricultural productivity, inadequate irrigation facilities, lack of nonagricultural labourers, recurrence of floods and drought and low level of literacy. According to the 1961 census, the male agricultural labourers in India were 31.48 million, formed 16.71 per cent of the total male population and total male agricultural workers inclusive of cultivators -- about 69 per cent of the total male population. Agricultural labourers formed 11.30 per cent of total workers in the State, and total cultivators including agricultural labourers formed 75.3 per cent which became 79.6 per cent in the 1971 Census. Thus 79.6 per cent of the working force of the State was engaged in agriculture as compared to 67 per cent for the country. However, the proportion of workers

7 See Appendix Tables AI and AII for details.

among rural and urban population in the State formed 53.55 and 28.41 per cent as mentioned in the Appendix tables A III and A IV. In brief, as shown in Table 4.1, the distribution of workers under three categories of cultivators, agricultural labourers and other workers in total in Uttar Pradesh and India.

Uttar Pradesh, like the rest of the country, is predominantly an agricultural State and most of the persons are engaged in agricultural pursuits. There are 15,910,591 cultivators and 5,497,317 agricultural labourers in the State. The workers engaged in all other activities are only 70,08,963. It will be seen that the number of cultivators is about three per cent of agricultural labourers.

4.5 STATE AND PER CAPITA INCOME

A comparison of total and per capita income of Uttar Pradesh with the total and per capita income of India brings out the relative backwardness of Uttar Pradesh. The share of Uttar Pradesh in the total income of the country at current prices declined from 13.5 per cent in 1960-61 to 129 per cent in 1970-71 because of a relative faster rate of growth in the national income than that in the State income. While the per capita income of the country in 1960-61 at constant prices was Rs. 306 that of Uttar Pradesh was only Rs. 246. Further whereas by 1970-71 that all India estimate was Rs. 347 (an increase of Rs. 41), for Uttar Pradesh the figure estimate was Rs. 276

Table 4.1 : Distribution of Workers by Main Livelihood Categories, viz., Cultivators, Agricultural Labourers and Other workers, in Uttar Pradesh : 1961 and 1971.

Livelihood Class	UTTAR PRADESH				INDIA			
	1961		1971		1961		1971	
	Number	%	Number	%	Number	%	Number	%
Cultivators	18,428,376	63.88	15,910,591	55.99	99,528,313	52.78	78,706,876	42.87
Agricultural Labourers	3,261,178	11.30	5,497,317	19.35	31,519,411	16.71	47,304,808	25.75
Other Workers	7,160,587	24.82	7,008,963	24.66	57,523,818	30.51	57,593,641	31.37

Source: Census of India, 1971, Series I, Part I, 1971, pp. 62-65.

(an increase of Rs. 30). In current prices the per capita income of the country in 1970-71 has been estimated to be Rs. 633, for Uttar Pradesh 523. The gap between per capita income of the State and of country in terms of constant prices of 1960-61, which was Rs. 60 in 1960-61, widened further to about Rs. 70 in 1970-71.[8]

The structural composition of the State's income over different sectors brings out the variations in percentage from year to year. The Table 4.2 below shows the percentage distribution of the State income by industrial origin at constant prices from 1960-61, 1968-69 and 1970-71.

Table 4.2 : Percentage Distribution of State Income by Sectors : 1960-61, 1968-69 and 1970-71.

(At constant prices 1960-61

S.No.	Particulars	1960-61	1968-69	1970-71
1	Agricultural and Allied Activities	60.9	57.5	56.8
2	Mining, quarrying, large and small scale manufacturing and construction	10.2	10.7	12.5
3	Commerce, transport and communications	12.3	13.8	13.6
4	Other services	16.6	18.0	17.1
		100.0	100.0	100.0

Source: Draft Fifth Five Year Plan, Uttar Pradesh, Vol.I, 1973, p. 47.

8 See Appendix Tables A.V and A.VI for details.

As seems from the table the contribution of agriculture to the State income has fallen from 60.9 per cent in 1960-61 to 56.8 per cent in 1970-71 correspondingly the contribution of tertiary sector has gone up. This upward trend is exhibited by commerce, transport and communications and other services. This decline in the contribution of the agricultural sector indicates that there has been a faster increase in the non-agricultural income than that in agricultural income since 1960-61.

Per capita income from agriculture, industry and mining is another indication of backwardness which has been mentioned by the working group, "... that in 1964-65 at 1960-61 prices the per capita contribution by industry and mining in Uttar Pradesh was Rs. 11 as against all-India average of Rs. 33, and Rs. 81 in Maharashtra and Rs. 68 in West Bengal."[9]

4.6 GROWTH RATE

The period for which the estimates of the State income of Uttar Pradesh are available covers the first four Five Year Plans and as such it would be worthwhile to compare the growth rate of different sectors (i.e., the State income at constant prices) and have an idea of the overall development of the State's economy during the Plans.

The per capita outlay in Uttar Pradesh has been consistently below the all States' outlay throughout this period.

9 Report of Working Group on Income, New Delhi, 1964-65, p.16.

This is one of the main reasons for the relatively low growth rate in income in the State. The Table 4.3 shows that while total income from 1960-61 to 1970-71 in Uttar Pradesh advanced at a rate of about 2.8 per cent, per capita income rose by 0.5 per cent at 1960-61 prices. In the country, on the other

Table 4.3 : Rate of Growth in India and Uttar Pradesh : Different Periods.

(% per annum)

P e r i o d	Total income India	Per capita income India	Total income U.P.	Per capita income U.P.
First Plan	3.4	1.6	1.9	0.5
Second Plan	4.0	1.8	1.8	0.2
Third Plan	2.5	0.3	2.1	-0.1
Three Annual Plans	4.3	2.1	2.1	-0.2
1969-70 to 1970-71	5.4	3.0	5.5	3.0
1960-61 to 1970-71	3.6	1.3	2.8	0.5

Source: Tribuvan Prasad, "Rate of Economic Growth in Uttar Pradesh and Reasons for its Retarded Development", Seminar on Economic Backwardness of U.P., November, 1971, Lucknow, pp. 9-10.

hand, the national income had been rising by about 3 to 4 per cent and per capita income had also advanced by 1.5 per cent during the same period. During the first Five Year Plan, the growth rate in Uttar Pradesh was 1.9 per cent as against all India rate of 3.4 per cent. During the Third Five Year Plan the corresponding figures were same as the Second Five Year Plan and during the Annual Plans of Uttar Pradesh, growth rate were 2.7 per cent as against all India rates of 4.0 per cent.

So far as per capita growth rates are concerned in the State, these were 0.5, 0.2, -0.1 and 0.3 during the First, Second, Third and three Annual Plans respectively, whereas the corresponding all India rates were 1.6, 1.8, 0.04 and 1.5 respectively. The true picture of the economic condition of the rural people in India during Plan period has been drawn by Shenoy.[10]

The rates of growth in various sectors of Uttar Pradesh and India had shown large variations during different periods. As explained in the appendix Table A.VII, the rate of growth in agriculture which was 1.1 per cent in the First Plan, 3.8 per cent in the Second Plan, 0.4 per cent in the Third Plan, fell to 2.1 per cent during the three year period of Annual Plan giving an overall rate of 1.7 per cent during the income year period ending 1969-70 in the Uttar Pradesh. Like agriculture, industrial sector showed varying trends. Large scale manufacturing sector was mostly responsible for these variations in the State.

4.7 AGRICULTURAL PRODUCTION

Uttar Pradesh is one of the major food-grains producer of the country. During 1968-69 to 1970-71 the average foodgrain

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10 An idea of the general deterioration in the condition of the rural poor in India during Plan period can be had by the following observations of Shenoy: "... during the First Plan per capita income averaged 27 per cent of the average urban income. This percentage came down to 24 in the Second Plan, to 20 in the Third Plan and only 18.5 during the fourth year period 1969-70". B.R. Shenoy, "Indian Economic Malaise, The Times of India, Oct.23,1973.

production in the State amounted to 17.8 million tonnes or 17.6 per cent of the country's total foodgrains production. Among food crops, Uttar Pradesh ranks first in the production of wheat, barley, maize, gram and pulses. Among non-food crops, Uttar Pradesh leads among all the States in the production of sugar-cane, rapeseed and mustard, sesamum, linseed and potato.[11]

In the year 1970-71 the total cropped area in the State was 22.2 million hectares, of this 19.5 million hectares or 88 per cent were under food crops and the remaining 12 per cent under non-food crops. This compared to the national pattern, the cropping pattern in Uttar Pradesh is based towards foodgrains. During the past decade ending 1970-71, the area under wheat and maize expanded rather sharply while the average increase in area under barley to that of wheat.

The State is net exporter in rice, bajra, gram and pulses. It also exports large quantities of sugar, gur, khandsari and oil seeds, particularly rapeseed and mustard and to a smaller extet ground-nut. But it imports large quantities of ground-nut oil. Though the State accounts for about one third of the country's total wheat production, it imports substantial quantities.

During the period 1952-53 to 1964-65, the growth rate of

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11 The production of total foodgrains were 19.59 million tonnes in 1970-71 as compared to 15.73 million tonnes in 1973-74. It means there was a substantial decrease in food production in 1973-74 as compared to 1970-71. See Appendix Tables A.VIII and A.IX for details.

agricultural production in the State was 2.4 per cent per annum as compared to 3.8 per cent for the country. During the same period the growth rate of food grains production was comparatively small, while it was comparatively high in the case of non-food-grains as given in the Table 4.4.

Table 4.4: Index Numbers of Agricultural Production in Uttar Pradesh : 1952-53 to 1970-71.

(Base Year : 1956-57)

Year	Food grains	Non-Food-grains	All Commodities
1952-53	95.1	82.9	91.3
1956-57	100.0	100.0	100.0
1960-61	113.5	111.9	113.0
1964-65	117.1	133.1	121.8
1968-69	127.9	105.9	121.0
1970-71	156.7	119.4	145.0
Annual Compound rate of growth between 1952-53 and 1964-65	1.7 (3.7)	4.0 (4.5)	2.4 (3.8)
1964-65 & 1970-71	5.0 (3.2)	- 1.6 (0.4)	2.9 (2.3)
1952-53 & 1970-71	2.8 (3.3)	2.1 (3.1)	2.6 (3.3)

Note: Figures in brackets indicate all-India growth rate.

Source: (i) For 1952-53 to 1964-65, Government of India, Ministry of Food and Agriculture, Directorate of Economics and Statistics, Growth Rate in Agriculture 1949-50 to 1964-65, 1966.

(ii) For 1965-66 to 1970-71, Government of Uttar Pradesh, State Planning Institute, Economic and Statistics Division, Statistical Diary, 1970, 1971 and 1972.

Taking the long period, i.e., 1952-53 to 1970-71, the growth rate of agricultural production in Uttar Pradesh was lower (2.6 per cent) in comparison to the whole country (3.3

per cent). However, a welcome trend during 1964-65 and 1970-71 in agricultural production in food-grains was highest at 5 per cent annum against the national average 3.2 per cent. This is mainly due to the fact that the wheat revolution in Punjab is spreading to Western districts of Uttar Pradesh. The total food production is expected to rise from 205 lakh tonnes in 1973-74 to 280 lakh tonnes in 1978-79.[12] Among the States with below average growth rate, Uttar Pradesh is having lowest productivity, i.e., 0.9 per cent per annum in 1952-53 and 1964-65.[13]

4.8 AGRICULTURAL HOLDINGS

The disguised unemployment or underemployment in the agricultural sector is due to the presence of small farms or holdings, which are not able to give full employment to the cultivator's family. It has been asserted in the Table 4.5, the 65 per cent of land holding of about 95 lakh, agricultural households, own holdings below 5 acres, covering nearly one third of the total crop growing area in Uttar Pradesh, 21.69 per cent of the holding within 5-10 acres range consisting of 27.87 per cent of the total area, 6.4 per cent holding are within the group 10-15 acres occupying 13.49 per cent of the total area and 5.9 per cent of holdings are within the

12 Draft Fifth Five Year Plan, Uttar Pradesh, op.cit., p. 101.

13 For Statewise growth rates of food production and productivity see Appendix Tables AX and AXi, for details.

Table 4.5 : Distribution of Land Holding in Uttar Pradesh : 1968-69

S.No.	Grade of Land holdings (in acres)	No. of holdings	Percentage of the total No. of holdings	Percentage of house-holds	Area of holdings (in acres)	Percentage to total area under holdings
1	Below 1.00	11,23,060	11.80	39.84	11,25,558	2.63
2	1.00 but below 2.50	25,66,160	27.06	20.16	43,52,443	10.17
3	2.50 but below 5.00	25,35,625	26.74	19.24	87,00,606	20.33
4	5.00 but below 7.50	14,11,695	14.89	9.04	69,75,892	16.30
5	7.50 but below 10.00	6,52,665	6.8	4.57	49,51,599	11.57
6	10.00 but below 12.50	4,11,440	4.3	2.47	34,62,268	8.09
7	12.50 but below 15.00	2,08,220	2.1	1.34	23,11,032	5.40
8	15.00 but below 20.00	-	-	1.51	-	7.77
9	20.00 but below 25.00	4,10,880	4.3	0.81	66,03,560	5.33
10	25.00 but below 30.00	-	-	0.29	-	2.33
11	30.00 and above	1,60,975	1.6	0.73	43,13,926	10.08
	Total	94,80,720	100.00	100.00	427,96,884	100.00

Source: Uttar Pradesh, Taxation Enquiry Committee Report, 1968-69, p. 31.

group of 15 and above acres in the State. The phenomenon of declining size of land holdings due to increase in population.

4.9 LAND UTILIZATION, IRRIGATION AND YIELD OF PRINCIPAL CROPS

The alluvial soil with rich water resources provides excellent opportunities for development. It is therefore, not surprising that the percentage net area sown (as percentage of total reported area) is 56.6 per cent in Uttar Pradesh against 44.8 per cent in the country. The area sown to more than once (as percentage of total reported area) is 17 per cent in the State against 7 per cent in the country. Similarly percentage of net area irrigated (as per cent of net sown area) is 36.1 per cent as compared to 20.1 per cent of the country in 1968-69.[14]

As the table XIIin the Appendix indicates, the reported sown area and the area under forest both significantly increased from 1950-51 to 1970-71, while the barren and uncultivable land, land put to non-agricultural uses, culturable waste, permanent pastures etc. declined. Similarly the net area sown and the area sown more than once considerable increased during this period while the area under current fallow was reduced from 1078 thousands hectares to 838 thousands hectares. The percentage of double cropped area to net area sown increased from 23 to 33 during the two decades under review.

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14 Ministry of Food, Agriculture, Community Development and Cooperation, Indian Agriculture in Brief, Tenth edition, 1970, pp. 30-31.

The proportion of double cropped area to net sown area in the eastern region abruptly increased from 30.4 per cent in 1968-69 to 34 per cent during 1970-71. Western region has the highest percentage of double cropped area to net area sown. As a result of these changes, the intensity of cropping has increased from 122.9 in 1950-51 to 133.8 during 1970-71.[15]

The net area irrigated in Uttar Pradesh increased from 4,840 thousand hectares in 1950-51 to 7,219 thousand hectares in 1970-71. The irrigation potential created by the end of 1973-74 through major and medium works was 41.03 lakh hectares as against the fourth plan target of 46.19 lakh hectares. The Fifth Plan proposed to create additional irrigation potential of 32.85 lakh hectares through private works. In respect of irrigation facilities in Uttar Pradesh had 42 per cent of the cultivated area under irrigation in 1970-71. This State has the largest area (66 per cent) of the area under canal irrigation and about half of under tube-well irrigation in the country.[16]

The Intensive Agricultural Programme was initiated in 1960-61 in three districts. The programme was subsequently expanded in stages to another 13 districts. The object of this programme was to try to meet as far as possible all the

15 See Appendix Table A.XIII.

16 See Appendix Table A.XIV.

requirements of inputs in selected areas and to see how output responded to this type of effort. The result obtained varied a great deal from district to district but brought out clearly the high effectiveness of a coordinated effort in achieving better results in agricultural production. The concept of "Package" of inputs and of appropriate supporting measures which came to be established from 1964-65 on the programme called the "Intensive Agricultural Area Programme" were extended to several parts of the country. Programme of various high yielding varieties were extended to fairly large areas in 1966, and by 1967-68 over 6 million hectares were brought within its purview.

Concentrated efforts were made to increase agricultural production by increasing the use of inputs like improved seeds, fertilizers and irrigation facilities. A major break through in agriculture was made, by introducing seeds of high yielding varieties together with complementary inputs. The area under high yielding varities increased from 2.03 lakh hectares in 1966-67 to 25.77 lakh hectares in 1972-73.[17] In absolute term the largest area under high yielding varieties of wheat in 1970-71 was in the State of Uttar Pradesh (about 2 million hactare); but it accounted for only 44 per cent of the total irrigated area under wheat in the State. Some progress was also made in paddy and maize in this regard.[18]

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17 Draft of Fifth Five Year Plan, Uttar Pradesh, Vol.I, 1973, p.56.

18 Agricultural Census 1970-71, Govt. of India, Ministry of Agricultural Irrigation, Department of Agriculture, New Delhi, September 1975, pp. 66-67.

The following table shows the increase in the average yield witnessed by the principal crops during 1950-51 to 1970-71:

Table 4.6 : Average yield of some principal crops in Uttar Pradesh : 1950-51, 1960-61 and 1970-71.

(Quintals per hectare)

Crops		1950-51	1960-61	1970-71
Rice	...	4.86	7.32	8.01
Juar	...	6.86	5.53	6.62
Bajra	...	6.44	3.94	7.87
Maize	...	7.85	5.95	11.90
Wheat	...	8.19	10.09	13.29
Barley	...	8.86	9.23	10.86
Sugarcane	...	291.03	410.20	406.42

Source: Draft of Fifth Five Year Plan, Uttar Pradesh, Vol.I, 1973, p.60.

It would be evident from the above table that during the two decades from 1950-51 to 1970-71, there was substantial increase in the yield per hectare of all major crops and more in the case of rice and wheat, where the percentage increase in yield in 1970-71 over the period of 1950-51 were 65 and 62 respectively.

4.10 FINANCE

According to the fourth plan of Uttar Pradesh, during 18 years period (1951-69) as assistance of Rs. 822.6 crores was received by Uttar Pradesh out of a total central assistance

of Rs. 6,226 crores to all the States. The share of Uttar Pradesh was only 13.2 per cent of country's population. In the matter of investment by financial institutions also Uttar Pradesh's share is vary low.

Uttar Pradesh has been ill served by commercial banking system. There were 59 unbanked towns in Uttar Pradesh as of mid-April 1969 (unbanked towns are those towns where there is no office of a commercial bank). So far as rural sector is concerned, State occupied very low position in the ranking of States according to the development of banking facility.[19] On the basis of number of villages, gross cultivated area and population, Uttar Pradesh has been ranked 12th in the list of sixteen States of India from the point of view of number of centres with banks in rural areas.[20]

According to the Fourth Five Year Plan of Uttar Pradesh, the State contributed 7.9 per cent of the total deposits of the commercial banks but its share in the bank credit was only 4.1 per cent.

Thus we find that the financial resources available to Uttar Pradesh from various quarters in the period under review have been inadequate for the development of the State.

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19 Reserve Bank of India, Bulletin, April, 1969.

20 A lot of progress in banking has since been made, Joshi, op.cit., p. 23.

4.11 GENERAL FEATURES OF UNEMPLOYMENT AND UNDEREMPLOYMENT

The major part of the economy is still underdeveloped and there is a vast mass of unemployment and underemployment. This has resulted in deficiency of income, aggregate demand and saving. There is also a marked deficiency of enterprise in the State.

According to 1961 Census, the total quantum of manpower in Uttar Pradesh was 39.23 million and total working force was 28.85. Of the total manpower about 86.89 per cent belonged to the rural areas and 13.11 per cent to the urban. This gave an overall rural-urban ratio of about 6.8:1.

The Table 4.7 derived from the 17th rounds of National Sample Survey (NSS) indicates that in the rural sector those who are working less than 28 hours or severely underemployed (23.83 per cent) and the gain fully employed, is about 29 per cent. As appears from the tables in the previous rounds, the position of rural employment is slightly better than the under-employment.[21]

It observed that on an average the working population of urban areas is engaged in their primarily occupations for 23

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21 Among the recent estimates of the number of previous unemployed in the country are those of Raj Krishna. His estimates include the unemployed as well as those underemployed are available for additional work based on the average percentage derived from 17th to 19th rounds of NSS of the persons who are unemployed, severely underemployed (working for 28 hours or less in the reference week) or moderately underemployed (working for more than 28 but less than 42 hours in the reference week). Raj Krishana, Presidential Address, Indian Agricultural Economic Conference, Kanpur, December, 1972.

Table 4.7 : Percentage of Gainfully Employed Persons in Uttar Pradesh Reporting Availability For Additional Work by Hours at Work : 1956-57 and 1961-62.

(XI and XVII Rounds of NSS)

Hours at Work	XI ROUNDS		XVII ROUNDS	
	Rural	Urban	Rural	Urban
Less than 28 hours	37.80	23.73	23.83	25.83
29-42 hours	30.58	31.04	28.62	8.38
43-56 hours	13.56	7.60	0.29	0.06
57 and above	3.59	7.90	0.00	0.00
Total	13.71	12.79	5.15	1.30

Source: 'Employment and Unemployment in Uttar Pradesh,' Quarterly Bulletin of Statistics, Directorate of Economics and Statics, Uttar Pradesh, August-June, 1963-64.

days in the month; while working population in the rural parts of the country is engaged only for 18 days.[22] Obviously there is an incentive on part of rural population to move away from the cultivation of land and household occupations to non-agricultural occupations and from seasonal or intermittent work to regular employment. Support this belief is forthcoming from the results of enquiry on internal migration to urban areas in 1963-64, which showed 58 per cent, of migrants to urban areas are from rural areas of them (reporting occupation) 27.3 per cent were agricultural labour prior to migration.[23]

22 Urban unemployment and employment in Uttar Pradesh, Quarterly Bulletin of Economic and Statistics, Directorate of Economic and Statistics, Uttar Pradesh, August-June, 1959.

23 National Sample Survey (NSS), Report No. 182, 18th round, P. 147.

Thus out of 1.07 million persons observed[24] to have migrated in 1963-64 from rural to urban areas and many as 0.292 million were agricultural labourers prior to migration. This would account for about 1.90 million, agricultural labourers migrating to urban areas in the period of six and half years intervening between the Second Agricultural Labour Enquiry Report (ALE) and Rural Labour Enquiry Report (RLE).

As we have described in the preceeding chapter, an agricultural labour household is one which derives a major portion of its income from wage-paid employment in agricultural operations.[25] It can be seen from the table 4.8 that agricultural labour households formed 21.8 per cent of the total rural households in the country. More than half of the agricultural labour households do not own any land, thus making them dependent on wage-paid employment. The incidence of landless population also varies among agricultural labour households from State to state. While in Punjab roughly 88 per cent of the agricultural labour hoseholds have no land, the corresponding figures for Uttar Pradesh was 46.1 as Kerala was just 30 per cent.

It cannot be overlooked, however, that both men and women in agricultural labour households worked for part of the year

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24 N.S.S., Report No. 186, p.3.

25 Roughly one out of every five rural households, belong to an agricultural labour family in 1964-65, Leela Gulati, "Unemployment among female agricultural labourers", Economic and Political Weekly, Vol. XI, No. 13, March 27,1976, P. A-33.

Table 4.8 : Characteristics of Agricultural Labour Households in India and Selected States : 1964-65.

State	Percentage of agricultural labour households to rural households	Percentage of agricultural labour households without land	Size of agricultural labour households	Wage earners in agricultural labour households	Work participation rate in agriculture labour households (%)	
					W	M
Uttar Pradesh	13.9	46.1	4.6	1.90	85	40
Bihar	28.0	37.5	4.8	1.84	86	43
Assam	4.9	43.2	4.5	1.72	84	37
Andhra Pradesh	31.4	65.4	4.1	2.30	90	78
Kerala	28.2	29.8	5.5	2.08	76	48
Maharashtra	31.0	68.4	4.6	2.34	83	71
Punjab	14.3	87.7	5.5	1.77	82	20
All India	21.8	56.1	4.5	2.04	86	55

Source: Rural Labour Enquiry, 1964-65, Final Report, Labour Bureau (1975).

on different farms. This is reflected in the days of self employment as shown in the Table 4.9, for 25 days in a year, men workers were self employed, the corresponding number of women was 18. In Uttar Pradesh number of days self employed for 52 days in a year which is largest days among other States and unemployment was 35 days in the man, while men were gainfully occupied in Uttar Pradesh for 225 days in a year; working women in agricultural labour households were occupied for only 115 days.

This relatively higher incidence of unemployment of working women has not however, remained unnoticed. Raj Krishna's estimates for 1971 show that the incidence of both unemployment and underemployment is higher among women[26] and the Bhagavati Committee's subsequent estimates for 1970-71 only confirm the findings.

In short, heavy pressure on land, together with small size of holdings, poor organisation and backward technique have resulted in chronic redundance of man power in agriculture The surplus manpower in agriculture exists mainly because the growth of non-agricultural sector has not been fast

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26 Raj Krishna, "Unemployment in India", Indian Journal of Agricultural Economics, January-March, 1973. According to him, of the total unemployment persons (9.25 million in 1971) 4.88 million were females. As a proportion of the estimated labour force, unemployment of females worked out to 6.70 per cent as against 2.68 per cent for males. Report of the Committee on Unemployment, Government of India, Report of Labour and Employment (1973), pp. 54-55.

Table 4.9 : Employment, Self-employment and Unemployment of male and Female Agricultural Labourers, 1964-65.

States	No.of days employed during the year		No. of days selfemployed during the year		No.of days unemployed during the year		Total No.of days employment was wanted		Proportion of unemployment days to total No. of days employment was wanted	
	M	F	M	F	M	F	M	F	M	F
Uttar Pradesh	225	115	52	41	35	108	312	264	11.22	40.91
Bihar	222	134	25	20	70	103	317	257	22.08	40.88
Assam	297	249	10	6	17	43	324	298	5.25	14.43
Andhra Pradesh	231	118	24	14	16	99	271	231	5.90	42.86
Kerala	187	157	11	8	106	120	304	285	34.87	42.11
Maharashtra	259	192	24	19	32	44	315	255	10.16	17.25
Punjab	305	184	7	16	27	59	339	259	7.96	22.78
All India	242	160	25	18	48	96	315	274	15.24	35.04

Source: Rural Labour Enquiry, 1964-65, Final Report, Labour Bureau, 1975.

enough to provide employment to transfering numbers from agriculture there has been tendency in non-agricultural sector to release forces which have accelerated the pressure of population on land.

4.12 CONCLUDING REMARKS

Improved performance of agriculture in Uttar Pradesh in the period under review has changed development and the capabilities of the economy as a whole over the coming years.

SECTION II

THE PROBLEM OF UNEMPLOYMENT AND UNDEREMPLOYMENT IN AGRICULTURE IN UTTAR PRADESH DURING FIVE YEAR PLANS

4.13 INTRODUCTION

Over the past two decades, it has not been possible to expand work opportunities on a scale sufficient to provide for new entrants of labour force much less to reduce the back logs of unemployment. In varying degrees, in most parts of India the task of providing employment has become more difficult. The problem has special features for different sections of population, for instance, for small farmers, landless agricultural workers, rural artisans and persons engaged in traditional industries.[27] Unemployment and underemployment of agricultural labourers lies at the root of the problem; this is not only by far the largest class in terms of numbers but also the class which receives, to the largest extent, all accruals, which result from the growing population and unemployment. There is enough problem of unemployment and underemployment in agriculture in Uttar Pradesh. An attempt is made in this section to assess the magnitude of unemployment and underemployment in the State during the Five Year Plans.

27 Tarlok Singh, India's Development Experience, The Macmillan Co. India Ltd., Bombay, 1974, p.91.

4.14 UNEMPLOYMENT AND UNDEREMPLOYMENT

While the state economy was in a state of economic slumber during 1971-76, it added 4.00 million to its labour force. Uttar Pradesh had a backlog of unemployment amounting to 9.46 lakhs during the Second Five Year Plan. Fresh entrants to the labour force during the Second Plan were 16.59 lakhs, so 26.05 lakh jobs were needed in the Second Plan for achieving full employment in the State. It is estimated that as against this requirement only 7.38 lakh additional jobs were created in the State during the Second Plan and thus the backlog of unemployment at the start of the Third Five Year Plan amounted to 18.67 lakhs. It means the backlog in the unemployment position in Uttar Pradesh in the Third Plan was double of that in the Second Five Year Plan while in India as a whole it was less than double. The following Table indicates the extent of unemployment during the Five Year Plans in Uttar Pradesh. The new entrants to labour force also continuously increased upto Third Five Year Plan.[28]

The extent of underemployment in agricultural sector had not been estimated upto Second Five Year Plan, but a number of reports such as these of National Sample Survey, Agricultural Labour Enquiries and Director General of Employment and Training (D.G.E.T.) indicates that underemployment in rural areas of

28 Report of the Committee of Experts on Unemployment Estimates, Planning Commission, Government of India, 1970, p.7.

Table 4.10 : Extent of Unemployment During the Five Year Plans in Uttar Pradesh.

(in lakhs)

Plan Period	Backlog of unemployment		New entrants of labour force		Additional employment created		Total unemployed at the end of the Plan	
	U.P.	India	U.P.	India	U.P.	India	U.P.	India
First Plan	-	-	-	-	-	-	9.46	53
Second Plan	9.46	53	16.59	117	7.38	80	18.67	90
Third Plan	18.67	90	21.50	170	31.17	145	10.00	115
Fourth Plan	10.00	115	41.00	230	22.00	185	19.00	160
Fifth Plan	19.00	160	35.00	-	40.00	-	14.00	-

Source: Draft of Fifth Five Year Plan of Uttar Pradesh, Vol. I, 1973, p.97, Manpower in Uttar Pradesh, A fact book, Government of Uttar Pradesh, Planning Department, 1965, p. 106, Report on the Committee of Experts on Unemployment Estimates, Planning Commission, Government of India, 1970, p. 7.

Uttar Pradesh are wide spread.[29]

The estimates of the Directorate of Economics and Statistics of Uttar Pradesh in 1956-57, however, indicate that 25 per cent of the total labour force in the villages was underemployed and that was reduced to 14 per cent in 1959-60. In the year 1964-65 again a survey done by the Government of Uttar Pradesh, Directorate of Economics and Statistics on "Employment and Indebtedness in rural labour households in Uttar Pradesh", that 86.90 per cent agricultural labour house holds employed in agriculture, against 4.74 per cent in non-agricultural occupations as it is none, that there is a less opportunity of employment in non-agricultural pursuits in Uttar Pradesh due to lack of development in capatilist sector.[30] However, none of these estimates can be relied upon completely and it is difficult to come to any quantitative conclusion regarding the extent of the seasonal unemployment and agricultural underemployment. In some parts of Uttar Pradesh, the implementation of rural works project undertaken during Third Plan has brought forth reports of shortage of labour[31] while

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29 Third Five Year Plan, Planning Commission, Govt. of Uttar Pradesh, Volume, I, p. 63.

30 Mohammad Shabbir Khan, "Rural Underemployment", Ed. V.K.R. V. Rao, 'Employment Unemployment', Allied Publishers Private Limited, Bombay, 1968, p. 80.

31 An interesting case of this nature was noted in Mathura District of Uttar Pradesh, see, Planning research and Action Institute, Planning Department, Uttar Pradesh, Pilot Projects in Utilization of surplus manpower in rural areas of Uttar Pradesh (An evalution study), Lucknow, 1962, pp. 45-48.

this can be explained as an erroneous selection of the project areas it is alleged that even in the areas with a high incidence of seasonal unemployment and single crop cultivation, and presumably, therefore with high incidence of seasonal unemployment and underemployment, the requisite labourers often do not come forth to work on rural projects.[32]

So expansion of employment ppportunities commensurate with the reduction in the labour force over the Plan period[33] conceived as one of the employment objective before the State. Uttar Pradesh is to reduce the proportion of the population dependent on agriculture from the present level. It will be possible to employ the labour force in nonagricultural sector, but the fresh addition to the labour force was around 2.72, 3.51 and 4.75 million in the Third, Fourth and Fifth Five Year Plans of Uttar Pradesh.[34] This was highest in the Uttar Pradesh among different States of India.

The yearly new entrants of labour force in the Third Five Year Plan in Uttar Pradesh were constant during 1962-65 but in the year 1965-66 it exhibited an increase of one per cent in

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32 See Appendix Table A.XV for details.

33 In India, it appears that there was a shift towards agriculture between 1951-61, particularly due to the failure of the nonagriculture sectors to employ enough workers from the new entrants to the labour force. Economic Survey of Asia and Far East, 1964, United Nations Publication.

34 See Appendix Table A.XVI for details.

the total new entrants of the labour force. The estimated job requirements for the Third Plan was 40.17 lakhs, but in the consequences of Chinese aggression towards the end of the year 1962, the country resources had to be mobilised on a large scale for defence and other nonplan expenditure. The Chinese aggression was followed, at no considerable interval, by the hostilities with Pakistan in 1965. These two events cost a heavy shadow over the implementation of the Plan projects and a serious industrial recession commenced in 1966-67. This recession persisted till the end of 1967-68. As a result the unemployment and underemployment situation worsened considerably after 1965. It has been estimated that in the beginning of the Fourth Five Year Plan, the number of unemployment persons was about 10 lakhs in which rural unemployment has about 8 lakhs. Against this it is estimated that with an investment of Rs. 6,700 crores, employment opportunities for about 40 lakhs persons may be created during the Fifth Five Year Plan, leaving about 14 lakhs persons as unemployed or thinly employed at the end of the Fifth Plan.[35] It means the rise in the unemployment and underemployment has been approximately five times over that First Five Year Plan.

4.15 EXTENT OF AGRICULTURAL UNEMPLOYMENT AND UNDEREMPLOYMENT AT THE COMMENCEMENT OF THE FIFTH FIVE YEAR PLAN

According to National Sample Survey (NSS) in Uttar Pradesh,

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35 Draft of Fifth Five Year Plan, Uttar Pradesh, op.cit., p. 97.

about 15 per cent of the working population had less than 42 hours' work in a week but more than 14 hours.[36] All such persons are underemployed and their number in 1972 would stand around 42 lakhs. Of these 16 lakhs persons had work less than even 28 hours in a week and these persons could be stated to be extensely underemployed.[37]

The intensity of unemployment and underemployment in agriculture in 1972 and at the commencement of the Fifth Five Year Plan could be summed up as in the Table 4.11.

From the Table 4.11 it can be inferred that there shall be an increase during the coming Plan period in the size of the unemployment and underemployment in both urban and rural areas. Keeping in view the broad observation of the Dantwalla Committee,[38] it would be more appropriate to include unemployment and underemployment among the unemployed persons. Taking persons with work of less than 2 hours a day also as unemployed, the size of rural unemployment adds upto 13.5 lakhs. The number of intensely rural underemployment comes to about 15.5 lakhs since they had worked for 14 to 18 hours only in a week. In addition there were 26.7 lakhs persons who can be deemed to be

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36 Draft of Fifth Five Year Plan, Uttar Pradesh, op.cit.,p.269.

37 For details see Section I, Table 4.7 of the same chapter.

38 The distinction between seasonal unemployment and underemployment should be clearly recognised and it would not be appropriate to aggregate the estimates of full-time unemployment in terms of man-years, Dantwalla, M.L., "Report of the Committee of Experts on Unemployment Estimates", Planning Commission, Government of India, 1970, p.25.

Table 4.11 : Underemployment and Unemployment During Fifth Five Year Plan

(In lakhs)

Items	Unemployment and under-employment in 1972	%	At the beginning of the Fifth Plan	%	% variation between 1972 & the beginning of the Fifth Plan
1	2	3	4	5	6
UNEMPLOYMENT					
1. Urban Areas	4.6	25.43	4.8	25.56	4.34
2. Rural Areas	13.5	74.57	13.9	74.44	2.96
3. Total	18.1	100.00	18.7	100.00	3.31
UNDEREMPLOYMENT					
1. Intensity of under-employment in rural areas	15.5	36.76	16.0	39.69	3.22
2. Other underemployed in rural areas	26.7	63.27	27.6	63.31	3.37
3. Total	42.2	100.00	43.6	100.00	3.31

Source: Draft of Fifth Five Year Plan, Uttar Pradesh Planning Department, Uttar Pradesh, Vol.I, p. 269.

Note: Col. 3, Col. 5 and Col. 6 are calculated by the author.

moderately underemployed because they had worked between 28-42 hours in a week. As far as the rural underemployment in Uttar Pradesh is concerned,there is a 3.22 per cent variation in intensely underemployment and the moderately underemployed variation is 3.37 per cent and on the whole rural underemployment is 2.74 per cent variation between 1972 and the beginning of the Fifth Five Year Plan. This is indicative of the fact that in the coming year the magnitude of all types of unemployment and underemployment will be on increase.

The advent of the high yielding varieties, however, raised expectation of early and, one may say, a costless solution. The new varieties "Generally require greater in production and allow greater intensification thereby providing a basis for expended employment of agricultural labour. They can cause a shift in the demand structure towards agricultural commodities which require more labour."[39] This view is reflected in estimate prepared by the National Commission on Labour that about half of the additional labour force in Indian agriculture would be absorbed in productive employment when the targets for the HYVP and the intensive multiple cropping programme are achieved by 1973-74.[40]

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39 John W. Mellor, "Report on Technological Advance in Indian Agriculture as it relates to the distribution of income," Mimeographed, December 12, 1969.

40 Government of India, Ministry of Labour, Report of the National Commission on Labour, 1969.

In practice, apart from recent developments associated with high yielding varieties, the impact on rural employment has depended on extension of irrigation, through large and small works, development of economic and social over-heads the provision of means for individual farmers to increase agricultural output. Irrigation undoubtedly leads to changes in cultivation practices and crop patterns which increase the demand for labour.[41]

4.16 CONCLUDING REMARKS

It can be concluded that there is a serious agricultural unemployment and underemployment conditions prevailing in Uttar Pradesh. It has been deterorating in the State from one Plan to another. Planned development has failed in achieving any of the most cherished objectives. The number of unemployed and underemployed people has increased during the Plan period.

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41 Ministry of Food, Agriculture, Community Development and Cooperation, Farm Management of India - A Study based on recent investigations, April 1966, pp.46-47 and 59-93.

SECTION III

INVESTIGATIONS IN A FEW SELECTED VILLAGES IN DIFFERENT PARTS OF THE STATE

4.17 INTRODUCTION

Small farms have focussed most of the attention in the recent years specially for their low production and high man-land ratio. These two aspects are universal for our Indian conditions and have been judged by several studies. The statistics of 1971 Agricultural Census show that 73 per cent of the total farms in our country are below the average size of about 5 acres. Although much has been written about this there are limited empirical studies. Therefore, the objective of this survey is to review some of the empirical studies on agricultural underemployment in Uttar Pradesh. A few of such empirical studies on agricultural underemployment in Uttar Pradesh are by A.L. Agarwal, Ashok K. Singh, Abdul Qayum, R.D. Sharma, S.C. Mathur and Ashok K. Mitra.

4.18 AGARWAL STUDY ON ETAWAH DISTRICT[42]

The study refers to a small village Birapur located in eastern corner of Etawah district, Uttar Pradesh. The village survey of cultivators, agricultural labourers, artisens and others has been done during 1966-67 according to their economic status like small, medium and large-size cultivators.

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42 A.L. Agarwal, op.cit., pp. 366-371.

The employment data pertaining to each work of the agricultural as well as of non-agricultural labour households were collected for four different weeks of four different months over the year. The reported hours of work spent on productive employment during the reference week, has been deducted from 56 hours, the standard time norm of work to obtain extent of underemployment. Agricultural labourer, who worked for less than 56 hours during the reference week were treated as under-employed, agricultural labourer, who worked more than 28 hours but less than 56 hours during the reference week were treated as moderately underemployed. Agricultural labourers who worked for 28 hours or less during the reference week were treated as severely underemployed.

He concluded that the month of July and May presented excess in the employment situation, employment per worker in July being about one third of that available in May. The months of November and January presented intermediate situations, the former being a moderate slack period and the latter a moderate peak. In the month of January there was no any severe underemployment, all the workers being moderately underemployed.

4.19 SINGH STUDY ON EASTERN UTTAR PRADESH[43]

An attempt was made to find out surplus labour in agriculture in Eastern Uttar Pradesh in aggregate and over a period of one

43 Ashok K. Singh, op. cit., pp. 462-475.

year (1961-62). On the basis of the days for which workers report at work was taken in to account through total available labour days and total labour days required, by summing the total labour days needed for raising the various crops and days required for maintenance the cattle.

His conclusion was that only 50 per cent of the available labour days can be gainfully utilised in agriculture. Thus the surplus comes to 49.9 per cent which in terms of labour days in more than 90 crore days of work. In spite of the fact that Gorakhpur and Deoria are among the districts where total labour days required in agriculture are very high, these districts recorded highest amount of surplus. These districts are followed by Jaunpur, Basti and Azamgarh.

4.20 QAYUM STUDY ON UTTAR PRADESH.

In an article[44] Qayum studied three facets of under-employment in agriculture in Uttar Pradesh namely, visible, invisible and potential underemployment. He also defined chronic and seasonal contents of various forms of underemployment. Field investigations covering two months in 1955 were conducted in different government agricultural farms of Uttar Pradesh. Qayum interviewed number of agricultural families to find out their occupations, land use and labour movements. Other data was collected from secondary sources.

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44 Abdul Qayum, op.cit., pp. 1960-1963.

Qayum used the difference between the total available work force and the work force actually required in agriculture at the existing level of technique and organisation in estimating underemployment. He not only showed the magnitude of surplus labour power under existing conditions of production but he also tried to estimate the magnitude of underemployment when following changes were ushered in agriculture:

i) Use of nonpower implements that do not involve not additional outlay.
ii) When the size of holdings remains intact the individual farmers, cultivators independently.
iii) When farmers cultivate on cooperative basis on combined holding of not less than 10 acres.
iv) When power farming was introduced involving not additional outlay.

He concluded that agricultural employment could be expanded if the size of holding was 7 acres as a minumum. The agricultural development shall, however, be accompanied by the development of secondary and tertiary industries, the development of cottage and mechanised industries and the development of transport, etc., which may absorb surplus agricultural labour.

4.21 SHARMA AND MATHUR STUDIES ON MEERUT DISTRICT[45]

An attempt was made in the year 1964-65 to study the extent of surplus labour on small farms in Meerut district approaches. The limit of small farms was fixed at half of the 'Plough

45 R.D. Singh and S.C. Mathur, op. cit., pp. 43-50.

Unit',[46] which varied from 6 to 10 acres in different zones. Farmers having less than one acre of land were not included in the study since they were not mainly farmers. The study was based on field data collected from 310 small farms, spread over 9 villages of Meerut District. The villages were selected by stratified random sampling and investigated by survey method. For stratification, the district was divided into blocks and zones: four blocks in sugarcane area and two zones under wheat on the basis of land utilisation, cropping pattern and irrigation resources. Sugarcane and wheat were the main crops of the district.

Surplus labour was estimated by the different approaches:

i) On the basis of actual amount of labour available and labour required in individual families;

ii) On the basis of plough unit for individual block/ zone under study; and

iii) On the basis of deducting actual requirement of mandays from available mandays in the farming families.

With these different approaches to the surplus manpower measurement, the estimates differed even for the same period and in the same locality. In Meerut district on small farms, the surplus manpower were estimated as about half of the total earners dependent on farming, i.e., the then level of production could be maintained if half of the population of these earners was

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46 Plough unit was defined as a part of land which can be managed by one plough with the help of average sized families; it provided full employment for two earners.

diverted from farming on those farms.

4.22 PANDEY, SHAH AND SINGH STUDIES ON UTTAR PRADESH[47]

This paper studied on farm utilization of farm family labour with a view to quantify the surplus farm family labour on different farm sizes in different regions of Uttar Pradesh, and to investigate the prospects of its mobilization for accelarating the process of economic growth of the State. The total mandays of family labour available on farm was computed by multiplying the total working units in the farm family with 300 working days in a year. While calculating the total working units in the farm family, only those family members in the age group of 15-59 who were available for farm work on regular annual basis were accounted for. In the case of female members in the age group 50 per cent working days were considered.

The data used in the study in the year 1973-74 pertained to a sample of 309 farmers selected in three size groups, i.e., zero to less than 5 acres as small, 5 to less than 10 acres as medium and 10 acres and above as large, from four regions of the State, viz., Eastern, Central, Western and Bundelkhand of Uttar Pradesh.

It was observed that a wide variation in the percentage of surplus farm labourers among different size groups in a

47 V.K. Pandey, S.L. Shah and A.K. Singh; "Surplus farm family labour in Uttar Pradesh and its mobilization for economic development", Indian Journal of Agriculture Economics, Conference Number, Vol.XXX, No.3, July-Sept.,1975,pp.38-44.

different regions existed. The percentage of surplus farm labour was lowest in Western region and highest in Bundelkhand region in all the respective size groups, indicating in general a high intensity of family labour use in the western region and a lower intensity in the Bundelkhand region. The extent of surplus farm family labour among different size groups varied from 17 per cent on the large farms to 53 per cent on the small farms in the Western region, from 42 per cent on large farms to 67 per cent on small farms in the Central region; from 39 per cent on the large farms to 60 per cent on the small farms in the Eastern region; and from 51 per cent on the large farms to 75 per cent on the small farm in Bundelkhand region.

They concluded that the prevailing family system and strong attachment to the agricultural employment came in the way of mobilizing surplus labour in agriculture. The workers needed some incentive to snap the ties of their traditional family system and strong attachment to be agricultural employment to go for work some where else. It was suggested that the workers would not go for the wage employment unless it gave additional remuneration to make up for the loss of advantages of the prevailing family system.

4.23 CONCLUDING REMARKS

From the foregoing discussions, it becomes quite clear that there is surplus labour in agricultural sector of Uttar Pradesh. It also appears to be true that there is a difference

between the slack and harvest period of time among the surplus agricultural workers. To verify the presence of this surplus a field survey was conducted in selected villages of Gorakhpur District in Uttar Pradesh. Its findings are reported in the next Chapter.

Chapter V

UNDEREMPLOYMENT IN AGRICULTURE IN GORAKHPUR DISTRICT

5.1 INTRODUCTION

The district of Gorakhpur is a part of the Eastern region of Uttar Pradesh which has a predominantly subsistence agricultural economy. According to the 1971 Census 92 per cent of population is depending on agriculture for their living. There has been very little increase in agricultural production over years. It has been estimated by the 1971 Census that about 70 per cent of the total farmers in India own land less than 2.5 acres. This overpopulation in agriculture instead of resulting in unemployment of some has led to underemployment of a large number of workers. The transfer of that part of manpower which cannot obtain productive employment in agriculture to other occupations is hampered by the lack of alternative occupations. The district of Gorakhpur is no exception to these characteristics.

In this chapter an attempt is made to estimate the extent of underemployment in Gorakhpur. This is done by attempting to measure the surplus labour on different farm sizes in different tehsils of the district. In addition, an attempt is

also made to examine the possibilities and difficulties of mobilizing the surplus agricultural manpower for economic growth. Accordingly, the chapter is divided in three sections. Section I discusses the importance of the Gorakhpur district particularly with reference to agriculture. Section II presents the results of investigations in individual villages in the district and Section III analyses the consequences of under-employment on the district economy.

SECTION I

THE DISTRICT AND ITS IMPORTANCE IN UTTAR PRADESH WITH SPECIAL REFERENCE TO AGRICULTURE

5.2 The economy of a district depends on a considerable extent on its physical environments, natural resources and availability of manpower both skilled and unskilled. Hence it will not be out of place to say a few words about the physical features and factor endowments of Gorakhpur district.

5.3 PHYSICAL IMAGE OF THE DISTRICT[1]

The present district of Gorakhpur has been carved out of the old district of the same name which was split up in 1946 in the districts of Deoria and Gorakhpur. The district occupies

1 Census of India, 1971, District Handbook, Gorakhpur District, Part (X-A), Series 21, Census of Uttar Pradesh, 1971, p.3.

the North-Eastern corner of the State along with the district of Deoria and comprises a large proportion of country lying to the North of the river Gaghara, the deep stream of which forms the southern boundary with district Azamgarh. In the west of boundry merges with district Basti and on the east with District Deoria, the dividing line being partly artificial and partly formed by the little Gandak river and further south by Jharna nala. To the north lies territory of Nepal separated from Gorakhpur by conventional boundary line. The district as a whole covers an area of 6,317 sq. km according to the Surveyor General of India. Total area is likely to vary from year to year owing to the erratic course of the river Ghaghra.

The district consists of four tehsils, namely Pharenda, Maharajganj, Gorakhpur and Bansgaon. Maharajganj is the largest in area is 1,755.2 sq. km. Tehsil Maharajganj and Pharenda are totally rural and the other two have one town each.[2]

According to their area in acres the number of villages having an area of more than 100 acres but not more than 500 acres are highest claiming the percentage of 55.65. The villages which lie within/radius of 26 to 50 km have the least number of institutions 30.74 per cent.

As many as villages of the district are connected by rail, out of the total number of 2,614 villages, 35.28 per cent are connected by pucca road and 7.15 per cent by kuchcha and pucca

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2 See Appendix Table A.XVII.

roads. The percentage of villages having only kuchcha roads is 15.06 per cent.

The forest in this district are of great economic value although they are far less extensive than before. These are situated in Maharajganj, Pharenda and Gorakhpur tehsils. The most important timber species supported by this is Sal.

Climate of the district is far more equable than that of Western tracts. As usual maximum heat is experienced during the month of May and June.

The average rainfall of the district during last decade (1951-61) was 123.2 cm (48.5"),slightly below the normal average of 126.8 cm (49.9").

5.4 POPULATION TRENDS

District occupies the fourteenth position in area and second position in population in Uttar Pradesh. According to the 1971 Census the total population of the district is about 3,038 lakhs in which ,1580 are males and 1,456 lakhs females. The rural population of the district is 2,798 lakhs. As shown in the Appendix Table A.XVIII, the percentage decade variation between 1961-71 is 18.43 per cent, which is greater than previous decades and that variation will be widened up to 1989.[3]

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3 Fifth Five Year Plan, Gorakhpur District, District Statistical Office, Gorakhpur, 1975, p. 4.

5.4.1 POPULATION ACCORDING TO LIVELIHOOD CLASSES

The economy of Gorakhpur district being agrarian, the majority of workers are engaged in agricultural activities. The 1971 Census describes three categories of workers, viz., cultivators, agricultural labourers and other workers. Table 5.1 shows the number of workers in these categories in Tehsils of the district for 1971.

Table 5.1 : Workers, Cultivators and Agricultural Labourers in Tehsils of Gorakhpur District : 1971.

Tehsil	Cultivators	Agricultural labourers	Other Workers	Total Workers
Pharends	108,738	54,195	14,737	177,670
Maharajganj	128,297	85,152	15,299	228,698
Gorakhpur (Sadar)	129,927	132,712	99,811	362,252
Bansgaon	92,269	100,399	22,646	215,314
Total	458,981	372,458	115,578	983,934

Source: District Census Handbook, 1971, Part 13, Series 21, Uttar Pradesh.

According to the 1971 Census, of the total workers 84.50 per cent were working in agriculture, and 46.6 per cent were cultivators and 37.8 per cent agricultural labourers. Only 15.4 per cent of the workers were engaged in non-agricultural activities. The percentage of female workers among total workers was 10.5 and as cultivators and agricultural labourers were 18.3 and 7.5 per cent respectively. Among the total

workers the percentage of active female workers was higher in agricultural activities.[4]

The large number of workers was in the age group 15-34 accounting for 46.6 per cent of total population followed by the age group 35-59 accounting for 37.3 per cent in 1971. The percentage of workers[5] below the age of 15 years was 8.3 and in the age group 60 and over was 7.8 per cent.[6] The largest number of persons at work other than cultivation was in services like transportation, railways and manufacturing.

Among other workers in rural areas were engaged in rural crafts like basketery, pottery, woollen blankets and carpets, etc. These crafts accounted for about 8,000 persons.[7]

5.5 LAND UTILIZATION AND IRRIGATION

The population pressure in the district has effected the average size of holding and has brought acute pressure on the land. The net area sown is 446,226 hectares in 1971, i.e., 94.45 per cent of the total holdings in the district. The net cropped area was 472,427 and 474,351 hectares respectively.

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4 See, Appendix Table A.XIX and A.XX for details.

5 According to the definition adopted in 1971 Census, a 'worker' is a person whose main activity is participation in any economically productive work by his physical and mental activity. Work involves not only actual work but effective supervision and direction of work.

6 See Appendix Table A.XXI for details.

7 See Appendix Table A.XXII.

During 1960-61 and 1973-74, it is observed that in the district the area under agriculture has remained almost stationary. The area under forest is 56,996 hectares, which occupied considerable proportion of the total area of the district. The size of holdings are very small and uneconomic, the majority of farmers having holdings below one hectare. In the district only 24 per cent land is cultivated more than once.[8]

Since 1965-66 irrigation facilities in the district have been increased by the different sources, i.e., canal, tube-wells, tanks, etc., and it is also confirmed that the holdings between 1.00 to 2.00 hectares are much benefited by irrigation facilities. The cropwise gross irrigated areas were continiously increasing right from 1961 to 1975, particularly in the case of paddy, wheat and sugarcane.[9]

5.6 CROPPING PATTERN AND YIELD

The chief crops in the State are rice, wheat, barly, gram, pulses, oilseeds and sugarcane. The following table shows the area under the main food and non-food crops for 1951, 1961 and 1971. The kharif is the main harvest of the district. The principal kharif crop is paddy, while the principal rabi crop is barley followed by pea, gram, oilseeds, etc. The contribution of different main crops to production as well as average yield[10]

8 See Appendix Tables A.XXIIIand XXIV for details.
9 See Appendix Table A.XXV.
10 See Appendix Table A.XXVI.

of some principal crops like wheat, rice and sugarcane has increased due to the utilization of high yielding varieties. The production as well as yield has increased in the year 1971, while average yield has decreased from 490.46 quintal in 1970-71 to 403.45 quintal in 1971-72.

Table 5.1.1: Area under Principal Crops : 1951, 1961 and 1971

(area in acres)

Principal Crops	1951	1961	1971	Percentage variation Between(1961-71)
FOOD CROPS				
Paddy	37.12	39.11	38.9	- 0.21
Wheat	11.28	13.87	28.2	+14.33
Barley	21.54	15.48	6.8	- 8.68
Jwar	0.01	0.03	1.6	+ 1.57
Bajra	0.03	0.06	-	-
Maize	1.42	1.75	-	-
Gram	3.49	4.29	7.8	+ 3.51
Potato	0.41	0.53	0.6	+ 0.07
Other foodcrops	24.65	24.33	-	-
Total	93.99	93.50	89.6	- 3.9
NON-FOOD CROPS				
Sugarcane	3.12	3.92	3.8	- 0.12
Cotton	0.00	0.00	-	-
Jute	0.009	0.02	-	-
All types of Oil seeds	12.61	1.35	1.5	+ 0.15
Fodder	0.80	0.68	-	-
Other than Non-food crops	0.80	0.50	4.5	+ 4.00
Total	6.00	6.49	10.4	+ 3.91

Source: (i) Agricultural census of Uttar Pradesh, 1971, Board of Revenue, Uttar Pradesh, 1974.

(ii) Percentage decade variations are calculated by the author.

SECTION II

RESULTS OF INVESTIGATIONS IN SELECTED VILLAGES IN THE DISTRICT

5.7 SCOPE AND INVESTIGATION

The problem of agricultural underemployment in the Gorakhpur district is of long standing. In the agricultural sector, small farmers and agricultural labourers are not able to get productive employment for even half of the year. Since small farmers and agricultural labourers are numerically large in number, it is considered necessary to make a detailed study to obtain a general review of agro-economic situation, growth trends in agriculture and devise suitable policies for the utilization of agricultural surplus manpower.

There are four tehsils in Gorakhpur district -- Gorakhpur Sadar, Bansgaon, Maharajganj and Pharenda. For a representative study it is essential that all four tehsils are represented in any selection of villages for detailed study. Of these Pharenda tehsil is more prone to floods and also suffers from a severe lack of transport facilities. Hence it was decided to exclude this tehsil completely from our investigations and confine it to the remaining three.

5.8 SELECTION OF VILLAGES

While selecting the villages from the Gorakhpur district,

an attempt was made to include villages with different cropping pattern, land utilisation, urban influence, population and other factors influencing the agro-economic picture of the agricultural sector of the State. The selection of different villages was made specifically to ensure that at least one village was selected from every tehsil of Gorakhpur district representing varying agro-economic situations under different climates, socio-economic conditions, trends of population growth and crop pattern, etc. To study the urban influence on rural life two villages Ramghar urf Chauri and Sonbarsa were selected. Another village was selected from the tehsil Bansgaon which was flooded area with less facilities to develop other subsidiary occupation. The following table lists the villages selected with their development blocks and tehsils:

Table 5.1.2: Selected Villages According to their Development Blocks and Tehsils in Gorakhpur District; 1974-75.

S.No.	Tehsil	Block	Village
1	Gorakhpur Sadar	Korabar	Ramghar urf Chouri
2	Gorakhpur Sadar	Chargaon	Sonbarsa
3	Bansgaon	Kouri Ram	Manokishanpur
4	Bansgaon	Bansgaon	Rantdandi
5	Bansgaon	Bansgaon	Khutbhar
6	Maharajganj	Partawal	Jaddupipra

5.9 METHOD OF INVESTIGATION

Investigations were conducted during 1974-75. The procedure for investigation are broadly indicated under different heads.

5.9.1 VILLAGE RECORDS

Village records were consulted to elicit information on the general economic background of the villages, such as their population, occupational classification of families, land utilisation, area under different crops, double cropped area, distribution of cultivated holdings, subsidiary occupations, etc.

5.9.2 DISCUSSION WITH EXPERIENCED CULTIVATORS AND VILLAGE OFFICERS

Apart from the data which could be obtained from the village records, a questionnaire was used to obtain additional information from those who had intimate first hand knowledge of the village and its agricultural conditions. Hence on all such points, thorough discussions were carried out with experienced agriculturists of the villages and the village officers.

Such discussions were useful in determining the size of the 'standard cultivated holding' for the villages, for estimating figures of seasonal migration or emigration of agricultural labourers, for preparing crop calendar, etc. Data emerging from such discussions are incorporated in the village schedule.

5.9.3 INTENSIVE FAMILY INVESTIGATION

The "Family Schedule" appended at the end was intended mainly to elicit data on various aspects of employment of the

family, like total number of members, working members, or subsidiary occupation, seasonal unemployment, size of cultivated holding, livestock, crops-cultivated, employment outside of the village, engagement of outside labourers, etc. Ten per cent of the families were selected from each village in the following manner.

The total number of families in the village was divided into (A) mainly agricultural families and (B) mainly non-agricultural families. Ten per cent of the families from each category were chosen. Agricultural families were further sub-divided into (a) Cultivators and (b) Agricultural Labourers. Cultivator families were further grouped into three categories:[11]

i) those cultivating holdings smaller than standard unit,[12] called Small Farmers;

ii) those cultivating holdings equal to the standard unit, called Standard Farmers, and

iii) those cultivating holdings larger than the standard unit, called Big Farmers.

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11 For our purposes we have taken 2.5 acres as the standard holding in Gorakhpur district.

12 "Standard holding can be briefly described as a holding which, under the existing conditions of techniques, provides full employment for a family of average size working with such assistance as is customary in agricultural operations", N.A. Majumdar, op. cit., pp. 83-84. The size of such holding obviously, cannot be the same for all regions. It has to vary from region to region and also according to type of farming and crop, etc. All the same when the determination of such a holding is with reference to a geographically homogeneous unit, it would not be difficult to arrive at such a standard unit.

5.10 LIMITATIONS

In addition to the difficulties, both conceptual and empirical, in estimating the size of a standard holding, we also came across the problem of holdings spread out in different villages. As figures of the land of a particular family, cultivating outside the village limits, i.e., neighbouring village was not available in the village records, information on this point was gathered from the head of the family and with the help of the village Officers.

The farmers do not keep any records of the time utilised in agriculture either of the household members or hired workers. Hence it is not possible to determine the actual number of mandays or labour days utilised in agriculture. Similar difficulty also arised in the case of non-resident cultivators of the village. In their cases, village Officers furnished the information.

5.11 EMPLOYMENT DATA

As the schedules indicate, it was our intention to obtain correct data on the extent of employment monthwise. Thus as the actual survey progressed it was found that it was not possible to obtain the necessary data with the required precision at a point of time.[13]

13 The difficulties pertaining such data relating to the last agricultural year have been admitted even for such a well organised survey like the Agricultural Labour Enquiry.

For determining the extent of seasonal unemployment it would have been necessary to maintain day today record of employment of selected families for a period of years. That was of course beyond the resources of both time and cost. Hence the distribution of employment or unemployment over all the twelve months could not be presented.

It was found that seasonality can be conveniently divided into two parts; (i) the "Off Season" or significantly described as "Dead Season" and (ii) Intermittent seasonal unemployment. Data on both aspects of seasonal unemployment have been collected and presented in the case of each village.

5.12 RESULTS OF VILLAGE INVESTIGATIONS

We now report the results of our investigations for villages mentioned in the year 1974-75.

5.13 RAMGHAR URF CHOURI

Ramghar urf Chouri, a village under Khorabar Block, in Gorakhpur Sadar Tehsil, lies 12km from the city on Gorakhpur-Deoria road. The nearest railway station is 3 km away, known as Kusmi railway station. Motor and Bus facilities are available throughout the day.

5.13.1 AREA AND POPULATION

Area of the village in 1974-75 was 1,404 acres and the total population 3,684. The distribution of population

according to occupation was as presented in the Table 5.2

Table 5.2 : Distribution of Population According to Occupation in Ramghar Urf Chouri : 1974-75

S.No.	Occupations	Dependent persons
1	Agriculture	2,984
(a)	Owner Cultivators	2,025
(b)	Tenent cultivators	-
(c)	Agricultural Labourers	959
(d)	Non-cultivating Owners	-
2	Non-Agriculture	700
(a)	Non-Farm Production	405
(b)	Commerce	85
(c)	Transport	95
(d)	Miscellaneous	115
Grand Total		3,684

Of the total population, about 81 per cent belonged to agricultural occupations and remaining 19 per cent to non-agricultural. Owner cultivators formed about 68 per cent of the agriculture population, while agricultural labeurers constituted 32 per cent of the same. Non-cultivating owners of land as also tenant cultivators were conspicuous by their absence. A considerable proportion of the population, viz., 11 per cent were dependent on non-farm production for their livelihood.

5.13.2 LAND UTILISATION AND PRINCIPAL CROPS

The total area of the village was 1,404 acres, among them

200 acres was under grazing land, tanks, gardens, etc., and 130 acres under forests and barren lands. The total cultivable area was about 1,074 acres, of which 23 acres were not cultivated due to lack of irrigation facilities. So, the total cropped area came to about 1,051 acres.

As shown in the table below, the following are the principal crops of the village:

Table 5.3 : Principal Crops and their Acreage in Ramghar urf Chouri : 1974-75

S.No.	Crop	Acreage
1	Paddy	189
2	Wheat	331
3	Barley	229
4	Sugarcane	96
5	Arhar and Oilseeds	108

Note: The total acreage used in different crops may exceed the total cultivated area because of double-cropping mainly wheat and paddy.

Thus wheat occupied about 32 per cent of the total cultivated area. Sugarcane in this area was one of the important cash crops due to climatic conditions, and facilities for making sugar.

5.13.3 DOUBLE CROPPING

Double cropping was a general practice in the village as it was usually free from the ravages of floods and other natural

calamities. Quite a few farmers were growing three crops in a year. Only 18 per cent of land was under the paddy and 269 acres of land were cropped once, due to the inadequate facilities of irrigation, and some areas being flooded in the rainy season. The following table gives relevant information about land-utilisation in the village:

Table 5.4 : Land Utilisation in Ramghar urf Chori: 1974-75

(Thousand Acres)

S.No.	Item	Land Utiligation
1	Total area of which	1,404
	(a) Cultivated	1,074
	(b) Not cultivable	330
	i) Under tanks, grazing land, house and streets	200
	ii) Others	130
2	Net Area Sown	1,051
	(a) Irrigated	614
	(b) Non-irrigated	437
3	Area Sown More than Once	782
4	Area cultivable but not cultivated	23
5	(3) as percentage of (2)	74.4
6	2(a) as percentage of 2)	58.4

5.13.4 IRRIGATION

As shown in the Table 5.4, 614 acres of land in the village was under irrigation while total cropped area was 1,051 acres.

The village experienced some difficulty in getting water for irrigation on time from canals and government tube-wells. Private tube-wells could not be taken advantage of as they charged a high rate for irrigation.

5.13.5 DISTRIBUTION OF CULTIVATED HOLDINGS

As mentioned earlier 2.5 acres of land in every crop constituted a standard unit. The families owning cultivated land were 422 and distribution of holding by size is given in the table below:

Table 5.5 : Distribution of Holdings by Size in Ramghar urf Chouri : 1974-75

S.No.	Size of Holdings	Cultivators	
		Number	Percentage of the total
1	Below 2.5 acres	300	71.09
2	2.5 - 5.00 acres	95	22.51
3	5.00 - 7.5 acres	10	2.37
4	7.5 - 10.00 acres	9	2.13
5	10.00 - 15.00 acres	5	1.13
6	15.00 - 20.00 acres	2	0.47
7	Above 20 acres	1	0.23
	Total	422	100.00

Note: Percentages may not add upto 100 as a result of rounding.

As seen from the table the agricultural holding of the village is generally generally small and uneconomic -- more than 71 per cent of the holdings being below the standard.

About 23 per cent of cultivators possessed standard units. About 6 per cent of holdings were substantially higher than standard unit.

5.13.6 HARVESTING PERIOD

The months and duration of harvesting of the main crops are shown in the following table;

Table 5.6 : Harvesting Period of Main Crops in Ramghar urf Chouri : 1974-75

S.No.	Crop	Months during which harvested	Approximate duration
1	Paddy Sugarcane	November to December	2 months
2	Arhar Barley Wheat Oilseeds & others	Mid March to May	2.5 months

It is obvious that the harvesting season of wheat, barley, oilseeds and arhar are more important in view of a large portion of cultivated area (63 per cent) being under them. That is why the duration of this harvest was longer than that of paddy and sugarcane, which together claimed 30 per cent of cultivated area.

5.13.7 SEASONAL MOVEMENT OF LABOUR

As seen earlier, wheat is the most dominant crop and cultivating labourers in the village are in large numbers. There is not enough work for most of the labourers throughout the year

as majority of cultivators are small in the sense that they cultivated less than the standard holding. Therefore, they looked for employment on other's farm. About 350 persons of this village went out for employment during harvesting season. Such employment was usually in the neighbouring villages mostly in Kusmi (2 km away) and Sardarnagar (5 km away). They went every morning and returned the same evening. Wages paid to them were on an average rupees 4.00 for men and Rs. 3.00 for women workers. In no part of the year, the outside labour immigrate to this village nor is scarcity of labour experienced.

5.13.8 NON-AGRICULTURAL EMPLOYMENT

The pattern of non-farm employment is reflected in the following figures which give the number of persons engaged in these occupations. The four dominant groups among them appear to be weaving, professions, dairy farming and carpentery which together account for more than 50 per cent of non-agricultural workers.

Table 5.7 : Non-agricultural Employment in Different Occupations in Ramghar urf Chouri:1974-75.

S.No.	Occupations	Number of persons
1	Weaving	25
2	Pottery	12
3	Professions	24
4	Carpentery	12
5	Blacksmithy	6
6	Poultry farming	2

(Contd.)

Table 5.7 (Contd.)

S.No.	Occupation	Number of persons
7	Dairyfarming	22
8	Tailoring	3
9	Fishing	8
10	Leather work	4
11	Trading	21
Total		139

5.13.9 SMALL SCALE MANUFACTURING

Of the many industries in the village blacksmithy accounted for 6 workers. There was a gamaxene factory, employing 20 persons for the whole year. A large number of persons was engaged in milk business. There were seven traders engaged in selling wood to the nearest market and few engaged in transporting bricks on bullock carts. About 22 traders are engaged in collecting milk from agriculturists and exporting to the city. Besides, there are two big factories -- Sarriya Sugar and Sarriya Steel Factory situated only 5 km away from the village. Large number of male workers are employed there.

5.13.10 BIG CULTIVATORS

Small size of holdings appeared to be almost universal in the village. Table 5.8 shows the data of five cultivator families owning more than 2.5 acres chosen at random sheds interesting light on their land holdings and work force employed from within and without the family. In spite of the

fact that they had more land than most of the villages, the big cultivators yearned of more land. Which they thought they could cultivate with the available equipment and workers. The extent of their land hunger is indicated in the last column.

Table 5.8 : Data Relating To Big Cultivators in Ramghar urf Chouri : 1974-75.

S.No.	Size of family	No.of adult working members	Farm labourers employed on permanent basis	Total culti- vated land (in acres)	additional land needed (in acres)
1	6	3	2	20	-
2	9	3	1	15	10
3	7	4	-	10	10
4	18	4	-	5	15
5	5	3	1	4	16

5.13.11 SMALL CULTIVATORS

Similarly six small cultivators whose average holding came to 1.25 acres were investigated. Among them five cultivators had no bullocks at all and they got their land cultivated on rental basis or borrowed the pair of bullock from big cultivators.

5.13.12 CROP CALENDER

As noted earlier work was not available for labourers within the village throughout the year. There are periods of rest forced on them by the seasonality of agriculture which provides most of the jobs. Table 5.9 gives the crop calender of Ramghar urf Chauri and indicates broadly the period of idleness, which is as follows:

i) About one and a half month from February to middle of March;

ii) about a month in June due to the rainy season; and

iii) about a month and a half in September-October between harvesting of paddy and sowing of wheat.

In the above three periods agricultural labourers naturally had no work. In addition between August and September, also the workers experienced days of idleness.

It was found that in "off season" quite a few agricultural labourers moved towards Gorakhpur city in search of employment.

Table 5.9 : Crop Calender of Ramghar Urf Chouri: 1974-75
(Standard Unit : 2.5 acres for each crop)

Month	Agricultural operations	Additional outside labour required	Approximate duration of Dead Season
January	Crushing of sugarcane		
February to Mid-March	———	Dead Season	1.5 months
2nd half of March, April and May	Sowing of Sugarcane, harvesting of wheat, barley, crushing of oil-seeds. Threshing of wheat		
June	———	Dead Season	1 month
July and August	Preparatory work, sowing, transplanting and weeding of paddy		
September October	———	Dead Season	1.5 months
November December	Harvesting and threshing of paddy, and sowing of wheat, etc.		

5.14 SONBARSA

Village Sonbarsa in the block Chargaon of Gorakhpur Sadar tehsil lies 10 km north of the city on Gorakhpur-Pharenda road. The railway station and bus station are very near to the village. Bus facilities are available throughout the day. The village is also uniquely situated in that it is a bare 3 km away from a unit of the Fertilizer Corporation of India.

5.14.1 AREA AND POPULATION

The area of the village in 1974-75 was 459 acres and the total population 1,478 of which 797 were males and 681 females. The distribution of population according to occupations is given in the following table.

Table 5.10 : Distribution of Population According to Occupation in Sonbarsa : 1974-75

S.No.	Occupations	Dependent persons
1	Agriculture	1,390
	(a) Owner cultivators	765
	(b) Tenant cultivators	-
	(c) Agricultural labourers	625
	(d) Non-Cultivating Owners	-
2	Non-Agriculture	88
	(a) Non-farm production	18
	(b) Commerce	18
	(c) Transport	29
	(d) Miscellaneous	23
3	Grand Total	1,478

Of the total population 94 per cent depended on agricultural activities for livelihood and the remaining 6 per cent non-agricultural activities. Owner cultivators formed about 52 per cent of the total agricultural population and were the predominant group among the agricultural population. Agricultural labourers were 48 per cent of the agricultural population and non-cultivating owners of land were completely absent.

5.14.2 LAND UTILISATION AND PRINCIPAL CROPS

As mentioned earlier the total area of the village was 459 acres, of which 59 acres were under grazing land, tanks, groves, etc., and 28 acres under forests and barren lands. The total cultivated area is about 460 acres, another 2 acres of land is cultivable but not cultivated due to lack of irrigation facilities.

The principal crops of the village are wheat, paddy, jowar, sugarcane, oilseeds and pulses. The following table indicates the acreage of each of them.

Table 5.11 : Principal Crops and Their Acreage in Sonbarsa :1974-75.

S.No.	Crop	Acreage
1	Paddy	205
2	Wheat	225
3	Sugarcane	93
4	Jowar and Bajra	20
5	Arhar	65
6	Oilseeds and others	18

Note: The total acreage used in different crops may exceed the total cultivated area because of double-cropping mainly wheat and paddy.

Thus wheat, paddy and sugarcane occupy the largest population. Sugarcane in this area was very important cash crop due to climate condition, and facilities for making sugar.

5.14.3 DOUBLE CROPPING

It was found that double cropping was common practice in the village. About 305 acres of land were cropped more than once. The following table gives relevant information about land utilisation, irrigated land, etc.,

Table 5.12 : Land Utilization in Sonbarsa : 1974-75

(in acres)

S.No.	Item	Land utilization
1	Total Area of which:	459
	(a) Cultivated	400
	(b) Not cultivable of which:	59
	(i) Under forests, tanks, grazing land and houses, street and barren land, etc.	28
	(ii) Others	25
2	Net area sown	398
	(a) Irrigated	208
	(b) Non-irrigated	192
3	Area Sown more than once	305
4	Area cultivable but not cultivated	2
5	(3) as per cent of (2)	76.6
6	2(a) as per cent of (2)	52.2

5.14.4 IRRIGATION

As shown in the Table 5.12, 208 acres of land comes under irrigation, while total cropped area was 400 acres. The village experienced some difficulty in getting water for irrigation on time from canals and government tube-wells. Private tube-wells could not be taken advantage of as they charged a high rate for irrigation.

5.14.5 DISTRIBUTION OF CULTIVATED HOLDINGS

It was estimated that 2.5 acres of land in every crop would constitute a stand and unit. The number of farm families cultivating their own land was 133 and the distribution of holdings by size as given in the following table.

Table 5.13 : Distribution of Holdings by Size in Sonbarsa : 1974-75

(in Acres)

S.No.	Size of Holdings	Cultivators	
		Number	Percentage of the total
1	Below 2.5 acres	102	76.61
2	2.5 - 5.00 acres	13	9.77
3	5.00 - 10.00 acres	7	5.26
4	10.00 - 15.00 acres	9	6.76
5	15.00 - 20.00 acres	1	0.75
6	Above 20 acres	1	0.75
	Total	133	100.00

Note: Percentages may not add up to 100 as a result of rounding.

It seems from the table that the agricultural holdings of the village were generally small and uneconomic and more than 76 per cent of them being below the standard unit. More than 22 per cent of the holdings were substantially higher than standard unit.

5.14.6 HARVESTING PERIOD

The months and duration of harvesting of the main crops are shown in the table below.

Table 5.14 : Harvesting Period of Main Crops in Sonbarsa : 1974-75.

S.No.	Crop	Months' during which harvested	Approximate duration
1	Paddy) Sugarcane) Jowar and) Bajra)	November to the end of December or beginning of January	2.0 to 2.5 months
2	Arhar) Wheat) Oilseeds) and ethers)	Mid February to April	2.5 mohths

It is obvious that the harvesting season of wheat, arhar, and oilseeds was more important in that it was longer as compared to the harvesting season for paddy, etc. Although about 76 per cent of the cultivated area was under paddy, sugar and bajra, etc.

5.14.7 SEASONAL MOVEMENT OF LABOUR

Wheat and paddy were the most important crops and the

agricultural labourers in the village were large in numbers. Most of the labourers did not have whole-time work for the entire year within the village. This can be explained by the fact that majority of cultivators in the village were small. So they sought employment in the neighbouring villages. About 135 persons of this village went out for employment for varied agricultural operations during July, August, September, October, December and March-April. As such employment is usually in the neighbouring villages they returned to the village the same evening. Wage paid to them was on an average Rs. 3.50 for male and Rs. 3.00 for the female workers. During no part of the year, outside labour immigtates to this village nor is scarcity of labour experienced.

In addition to seeking employment in the neighburing villages, a number of persons go out to work in an industrial estate, a plant of the Fertilizer Corporation of India (FCI), and the railway loco workshop.

5.14.8 NON-AGRICULTURAL EMPLOYMENT

As usual in Indian villages the non-agricultural avenues of employment were confined to traditional occupations, like dairy-farming, weaving and brick working, etc. The following table indicates the non-agricultural employment in different occupations in Sonbarsa.

Table 5.15 : Non-Agricultural Employment in Different Occupations in Sonbarsa: 1974-75

S.No.	Occupations	No. of Persons
1	Weaving	7
2	Pottery	1
3	Professions	18
4	Carpentery	1
5	Blacksmithy	1
6	Poultry-farming	2
7	Dairy Farming	8
8	Tailoring	1
9	Trading and others	51
	Total	90

5.14.9 SMALL SCALE MANUFACTURING

The industrial estate lies at a distance of 4 km to the south of the village. The industrial estate employed about 100 persons either for the whole of the year or a part of it. The F.C.I. situated about 3 km away to the south is another significant source of employment. About 36 persons from the village are engaged in pulling rickshaw in the city of Gorakhpur.

5.14.10 BIG CULTIVATORS

Small size of holdings appeared to be almost universal in the village. The table 5.16 shows the data of four cultivator

families owning more than 2.5 acres chosen at random sheds interesting light on their land holdings and workforce employed from within and without the family. In spite of the fact that they had more land than most of the villagers, the big cultivators yearned of more land, which they thought they could cultivate with the available equipment and workers. The extent of their land hunger is indicated in the last column.

Table 5.16 : Data Relating to Big Cultivators in Sonbarsa : 1974-75.

S.No.	Size of family	No.of adult working members	Farm labourers employed on permanent basis	Total cultivated land (in acres)	Additional land needed (in acres)
1	41	15	1	41	-
2	40	12	1	15	20
3	14	8	-	6.5	15
4	8	5	-	6	10

5.14.11 SMALL CULTIVATORS

The holdings of 10 small cultivators whose average size of holding was 0.75 acre were investigated. Among them 8 cultivators had no bullocks at all and got their land cultivated on rental basis on borrowed pair of bullocks from big cultivators. It is interesting to note that the majority of families, i.e., 70 per cent worked on other's farms besides working on their own.

5.14.12 CROP CALENDER

As noted earlier, work is not available for labourers within

the village throughout the year. There are periods of rest forced on them by the seasonality of agriculture which provides most of the jobs. Table 5.17 gives the crop calender of Sonbarsa and indicates broadly the period of idleness, which is as follows:

i) About one and a half month from mid-January to February
ii) About one and half months from June to Mid-July due to rainy season
iii) About one and a half months in mid-September-October between sowing, weeding and harvesting of the paddy and sowing of the wheat crop.

In the above three periods the agricultural labourers naturally had no work. In addition they remain idle for a few days in August-September. It was found that in the off-season most of the agricultural labourers moved towards the towns in search of employment.

Table 5.17 : Crop Calender of Sonbarsa : 1974-75
(Standard unit : 2.5 acres for each crop)

Month	Agricultural operations	Additional outside labour required	Approx. duration of dead season
Beginning of January	Crushing of sugarcane		
Mid-January to February	_____	Dead Season____	1.5 months
March-April	Sowing of sugarcane, harvesting of wheat, arhar and crushing of oilseeds.		
May	Threshing of wheat, Arhar		
June to mid-July	_____	Dead Season_____	1.5 months

(Contd.)

Table 5.17 (Contd.)

July to beginning of September	Preparatory work, sowing, transporting and weeding of the paddy, Jowar, Bajra	
Mid-September to October	Dead Season	1.5 months
November-December	Harvesting and threshing of paddy and sugarcane and sowing of wheat etc.	

5.15 MANOKISHUNPUR

Manokishunpur, a village under Kauriram Block in Bansgaon tehsil lies 37 km to the south of the city on Gorakhpur-Barhalganj road. There are no railway facilities available in the entire tehsil. A bus station lies about 4 km away from the villate to the east. Bus and taxi facilities are available throughout the day, the latter catering to the long-distance passengers.

5.15.1 AREA AND POPULATION

Area of the village was 400 acres and the total population 1,000. The distribution of population, according to the occupation, is given in the Table No. 5.18.

As is evident in the table, about 70 per cent of the population were dependent on agricultural activities and remaining 30 per cent on non-agricultural activities. Owner cultivators formed 60 per cent of the agricultural population. Agricultural

labourers, tenant cultivators are dependent on others. It is significant to point out that agricultural labourers were 16 per cent of the agricultural population. There were no non-cultivating owners of land due to the small size of the holdings.

Table 5.18 : Distribution of Population According to Occupation in Manokishunpur : 1974-75

S.No.	Occupations	Dependent persons
1	Agriculture	700
(a)	Owner cultivators	420
(b)	Tenant Cultivators	25
(c)	Agricultural Labourers	255
(d)	Non-Cultivating Owners	-
2	Non-Agriculture	300
(a)	Non-farm production	168
(b)	Commerce	48
(c)	Transport	-
(d)	Miscellaneous	84
3	Grand total	1,000

5.15.2 LAND UTILISATION AND PRINCIPAL CROPS

The total area of the village was 400 acres of which only 12 acres were under grazing land, tank, etc. Total cultivated area thus comes to 388 acres. In kharif crop 15 acres are not used due to the area being under water.

As shown in the table 5.19 the principal crops of the village are wheat, paddy, jowar, bajra and pulses. Sugarcane cultivation was on lesser acreage as compared to other villages surveyed due to the absence of sugar industry in

the neighbourhood. Sugarcane was produced for consumption in the village.

Table 5.19 : Principal Crops and their Acreage in Manokishunpur : 1974-75

S.No.	Crop	Acreage
1	Paddy	275
2	Wheat	205
3	Jowar and Bajra	163
4	Arhar and Oilseeds	148
5	Sugarcane	35

Note: The total acreage used in different crops may exceed the total cultivated area because of double-cropping mainly wheat and paddy.

The acreage under paddy and wheat occupied prominent places although it should be remembered that a large part of this area was used for double-cropping. Jowar and Bajra and Arhar and Oilseeds also exhibited significant acreages.

5.15.3 DOUBLE CROPPING

Double cropping in the village was common practice, as the village was not threatened with periodic floods. A few farmers were growing even three crops a year. Only 15 acres of land are not used for double cropping due to the area being under water in the months of July to September. Table 5.20 demonstrates the above statement.

Table 5.20 : Land Utilisation in Manokishunpur: 1974-75.

(in Acres)

S.No.	Item	Land Utilization
1.	Total area of which	400
	(a) Cultivated	388
	(b) Not-cultivable	12
	of which	
	(i) Under forests, tanks, grazing land, houses, streets, and barren land, etc.	12
	(ii) Others	-
2.	Net area sown	388
	(a) Irrigated	388
	(b) Non-irrigated	-
3.	Area sown more than once	373
4.	Area cultivable but not cultivated	-
5.	(3) as per cent of (2)	96.1
6.	2(a) as per cent of (2)	100

5.15.4 IRRIGATION

As shown in table 5.20, the total cropped area under irrigation in 1974-75 was hundred per cent. Irrigation facilities were available mainly from the rivers and tube-wells mostly in private sector. The cost of irrigation from tube-wells is high and therefore, the rate of utilization of water from this source is fairly low.

5.15.5 DISTRIBUTION OF CULTIVATED HOLDINGS

As in earlier village investigations, 2.5 acres for every crop was taken as constituting a standard unit. The distribution of holding by size is given in the table below:

Table 5.21 : Distribution of Holdings by Size in Manokishunpur : 1974-75

S.No.	Size of Holdings	Cultivators	
		Number	Percentage of the total
1	Below 2.5 acres	80	65.04
2	2.5 - 5.00 acres	20	16.26
3	5.00 - 7.5 acres	14	11.38
4	7.5 - 10.0 acres	5	4.06
5	10.0 - 15.0 acres	2	1.62
6	15.0 - 20.0 acres	1	0.81
7	Above 20 acres	1	0.81
	Total	123	100.00

Note: Percentages may not add up to 100 as a result of rounding.

The situation in this village appeared to be slightly better in comparison to other villages in so far as the per centage of uneconomic holdings was a little less (65 per cent) and consequently economic holdings were in higher population. More than 25 per cent of holdings were substantially higher than standard unit.

5.15.6 HARVESTING PERIOD

The months and duration of harvesting of the main crops

in the village is shown in the following table:

Table 5.22 : Harvesting Period of Main crops in Manokishunpur: 1974-75

S.No.	Crops	Months during which harvested	Approximate duration
1	Paddy, Jowar, Bajra	October - November	2 months
2	Arhar	Mid-January-End of January	0.5 month
	Wheat, Oil-seeds and Others	March to April	2 months

It is obvious that harvesting season of wheat, arhar and Oil-seeds was more important in that it was longer as compared to the harvesting season for paddy, etc.

5.15.7 SEASONAL MOVEMENT OF LABOUR

Wheat and paddy were the most important crops and the agricultural labourers in the village were large in numbers. Most of the labourers did not have whole-time work for the entire year within the village. This can be explained by the fact that majority of cultivators in the village were small. So they sought employment in the neighbouring villages. About 200 persons of this village went out for employment for varied agricultural operation during September, October, March and April. As such employment is usually in the neighbouring village they returned to the village the same evening. Wage

paid to them was on an average Rs. 4.00 for male and Rs. 3.50 for the female workers. During no part of the year outside labour immigrates to this village nor is scarcity of labour experienced.

5.15.8 NON-AGRICULTURAL EMPLOYMENT

The pattern of non-agricultural employment is reflected in the following figures which give the number of persons engaged in some of these occupations:

Table 5.23 : Non-agricultural Employment in different occupations in Manokishunpur: 1974-75

S.No.	Occupations	Number of persons
1	Weaving	36
2	Pottery	8
3	Trading	25
4	Professions	3
5	Carpentry	10
6	Blacksmithy	2
7	Poultry-farming	-
8	Dairy Farming	23
9	Tailoring	2
10	Fishing	5
	Total	114

5.15.9 SMALL SCALE MANUFACTURING

There was not much manufacturing worth speaking about in the village. The largest number of workers are engaged in weaving. Milk business and transportation of bricks claimed another big chunck of workers. There were a few tailors, carpentors and blacksmiths plying their traditional trade.

5.15.10 BIG CULTIVATORS

Small size of holdings appeared to be almost universal in the village. The following data of six cultivator families owning more than 2.5 acres chosen at random sheds interesting light on their land holdings and work force employed from within and without the family. In spite of the fact that they had more land than most of the villages, the big cultivators yearned of more land. Whey they thought they could cultivate with the available equipment and workers. The extent of their land hunger is indicated in the last column.

Table 5.24 : Data relating to big cultivators in Manokishunpur : 1974-75

S.No.	Size of family	No.of adult working members	Farm labourers employed on permanent basis	Total cultivated land (in acres)	Additional land needed (in acres)
1	14	4	2	45.0	-
2	20	8	1	10.5	-
3	13	4	1	14.5	-
4	12	3	-	10.0	10
5	16	5	1	9.0	10
6	9	3	-	7.0	15

5.15.11 SMALL CULTIVATORS

The cultivated holdings of six small cultivators with an average holding of 1.25 acres were investigated. Among them most

of cultivators had no bullocks at all and they got their land tilled on rental basis or borrowed their pair of bullocks from big cultivators. Most of these families worked for others besides working on their own holding to supplement their income.

5.15.13 CROP CALENDER

As noted earlier, work was not available for labourers within the village throughout the year. There are periods of rest forced on them by the seasonality of agriculture which provides most of the jobs. The table 5.25 gives the crop calender of Manokishunpur and indicated broadly the period idleness, which is as follows:

i) About one and a half month from February to of March.

ii) About one and half months from June to mid-July due to the rainy season.

iii) One and half months from mid-September to October, between sowing, weeding and harvesting of the paddy, jowar and bajra, sowing of the wheat crop.

In the above three periods the agricultural labourers naturally had no work. It was found that during the idle season quite a few agricultural labourers moved to Gorakhpur city in search of some employment. Most of them worked as construction workers. Some vended fruits, vegetables, etc. A few of the

workers took to carrying loads at the village bus-stop.

Table 5.25 : Crop-Calender of Manokishunpur : 1974-75
(Standard Unit : 2.5 acres for each crop).

Month	Agricultural operations	Additional out-side labour required	Approx.duration of dead season
Mid January to end of January	Sowing wheat, harvesting of oilseeds		
February to Mid of March	———	Dead Season ———	1.5 months
Mid March to April	Sowing of sugar-cane, harvesting of wheat, crush-ing of oilseeds		
May	Threshing of wheat		
June to mid-July	———	Dead Season ———	1.5 months
July-August Beginning of September	Preparatory work sowing, trans-planting and weeding of paddy, jowar, bajra		
Mid-September to October	———	Dead Season———	1.5 months
November-December	Harvesting and threshing of paddy, jowar, bajra and sowing of wheat etc.		

5.16 RANTDANDI

Village Rantdandi is situated on the bank of Ammi river under the block Bansgaon of Bansgaon Tehsil and lies 13 km in the south of city of Gorakhpur on Gorakhpur-Gola road. The busstation is about 5 km away from the village known as Khajni. Bus facilities are available throughout the day. There is no railway line not only for the village but for the entire tehsil of Bansgaon.

5.16.1 AREA AND POPULATION

Area of the village was 160 acres and the total population 500 of whom 290 were males and 210 females. The distribution of population according to occupation is in the table below:

Table 5.26 : Distribution of population according to Occupation in Rantdandi : 1974-75.

S.No.	Occupations	Dependent persons
1	Agriculture	390
	(a) Owner cultivators	335
	(b) tenant cultivators	-
	(c) agricultural labourers	55
	(d) non-cultivating owners	-
2	Non-agriculture	110
	(a) Non-farm production	53
	(b) Commerce	27
	(c) Transport	15
	(d) Miscellaneous	15
3	Grand total	500

Of the total population of the village, 78 per cent belong

to agricultural class and remaining 22 per cent to non-agricultura Owner cultivators formed about 86 per cent of the total agricultural population and agricultural labourers were 14 per cent of the agricultural population. There were no non-cultivating owners nor any tenant cultivators.

5.16.2 LAND UTILIZATION AND PRINCIPAL CROPS

The total area of the village was 160 acres of which 19 acres were under grazing land, barren land, orchards, tanks, etc. The total cultivated area thus comes to about 140 acres. There was no such land which was cultivable but not cultivated.

As showin in the table below the principal crops of the village are wheat, oilseeds and pulses.

Table 5.27 : Principal Crops and their acreage in Rantdandi : 1974-75

S.No.	Crop	Acreage
1	Paddy	13
2	Wheat	98
3	Arhar	10
4	Jowar-bajra	37
5	Oilseeds and others	16

Note: The total acreage used in different crops may exceed the total cultivated area because of double-cropping mainly wheat and paddy.

Thus, wheat and oilseeds together with jowar-bajra occupy almost the entire land in the village. Paddy and arhar did not accounted for much land as floods in the rainy season regularly

destroy the kharif crops.

5.16.3 DOUBLE CROPPING

There was not much double cropping practised in the village due to floods in the Aumi river every year. Only 23 acres of land were used for double cropping. The following table gives relevant information about land utilisation in the village:

Table 5.28 : Land Utilization in Rantdandi: 1974-75

S.No.	Item	Land Utilization
1	Total area of which	160 acres
	(a) Cultivated	124
	(b) Not cultivable of which	36
	i) under forest, tanks, grazing land, house, street and barren land etc.	21
	ii) Others	15
2	Net Area sown	124
	(a) Irrigated	74
	(b) Non-irrigated	50
3	Area sown more than onece	23
4	Area cultivable but not cultivated	-
5	(3) as percentage of (2)	18.5
6	2(a) as percentage of (2)	59.6

5.16.4 IRRIGATION

As shown in the table above, 74 acres of land in the village was under irrigation while total cropped area was 124 acres. The

village experienced some difficulty in getting water for irrigation on time from government tubewells. Private tubewells could not be taken advantage of as they charged a high rate for irrigation.

5.16.5 DISTRIBUTION OF CULTIVATED HOLDINGSS

As mentioned earlier 2.5 acres of land in every crops constituted a standard unit. The families owning cultivated land were 95 and distribution of holdings by size in Rantdandi is given in following table.

Table 5.29 : Distribution of Holdings by size in Rantdandi : 1974-75

S.No.	Size of holdings	Cultivators	
		Number	Percentage of the total
1	Below 2.5 acres	70	73.68
2	2.5 - 5.00 acres	18	18.94
3	5.00 - 10.00 acres	5	5.26
4	10.00 - 15.00 acres	2	2.1
5	15.00 - 20.00 acres	-	-
6	Above 20 acres	-	-
	Total	95	100.00

Note: Percentages may not add upto 100 as a result of reunding.

It seems from the table that the agricultural holdings of the village were generally very small and uneconomic, more than 73 per cent of them being below the standard unit. About 26

per cent of the holdings were 2.5 acres or more and about 7 per cent were 5 acres or more.

5.16.6 HARVESTING PERIOD

The months and duration of harvesting of the main crops is shown in the table below:

Table 5.30 : Harvesting Period of main crops in Rantdandi : 1974-75

S.No.	Crop	Months during which harvested	approximate duration
1	Arhar Wheat Oil-seeds and Others	Mid-March to May	2.5 months
2	Jowar-Bajra	Second half of October	0.5 month

The main harvesting season of wheat, arhar, oilseeds, jowar and bajra are more important in view of single cropping practised in the village.

5.16.7 SEASONAL MOVEMENT OF LABOUR

As seen earlier,wheat, arhar and oilseeds are the most dominant crop and cultivating labourers in the village are in large numbers. Most of the labourers did not have whole-time work for the entire year within the village. This can be explained by the fact that majority of cultivators in the village were small. Therefore they looked for employment on other's

farm. About 105 persons of this village went out for employment during July, August, September, October, December and March-April. Such employment was usually in the neighbouring villages. They went every morning and returned the same evening. Wages paid to them were on an average Rs. 4.00 for men and Rs. 3.50 for women workers. In no part of the year does the outside labour immigrated to this village nor is scarcity of labour experienced.

5.16.8 NON-AGRICULTURAL EMPLOYMENT

As usual the non-agricultural avenues of employment were confined to traditional occupations. The following table indicates the non-agricultural employment in different occupations in Rantdandi:

Table 5.31 : Non-Agricultural Employment in Different Occupations in Rantdandi: 1974-75

S.No.	Occupations	Number of persons
1	Pottery	13
2	Professions	13
3	Carpentery	4
4	Blacksmithy	4
5	Dairy-farming	19
6	Barbery	2
7	Tailoring	2
8	Trading and others	53
	Total	110

5.16.9 SMALL SCALE MANUFACTURING

There is not much of manufacturing in the village. Apart from 13 potters and 19 milkmen, the most important processing activity is that of oil crushing which too is of seasonal character and provides employment to about 9 persons for four months in the year. A few workers are employed in making wooden furniture outside the village.

5.16.10 BIG CULTIVATORS

Subdivision and fragmentation of holding was the common features of the village, and this way most of the holdings were too small to enable their owners to feed their families. The following data of four cultivator families owning more than 2.5 acres chosen at random sheds interesting light on their land holdings and workforce employed from within and without the family. In spite of the fact that they had more land, the most of the villagers, the big cultivators yearned of more land which they thought they could cultivate with the available equipment and workers. The extent of their land hunger is indicated in the last column.

Table 5.32 : Data Relating to Big Cultivators in Rantdandi : 1974-75.

S.No.	Size of family	No.of adult working members	Farm labourers employed on permanent basis	Total cultivated land (in acres)	Additional land needed (in acres)
1	7	2	1	15	-
2	15	4	-	12	10
3	9	3	-	10	15
4	16	6	-	6	20

5.16.11 SMALL CULTIVATORS

The holdings of seven small cultivators with an average holding of 0.75 acres were intensively investigated. All seven cultivators, had no bullocks at all and they got their land tilled on rental basis or in most cases borrowed the pair of bullocks from big cultivators. Most of these farmers worked in other's fields also to supplement their income.

5.16.12 CROP CALENDER

As noted earlier, work was not available for labourers within the village throughout the year. There are periods of rest forced on them by the seasonality of agriculture which provides most of the jobs. The table 5.33 gives the crop calender of Rantdandi and indicates broadly the period of idleness, which is as follows;

i) two and a half months from January to the middle of March.

ii) about two months in June and July due to floods of Ammi river.

iii) one and a half months from September to mid October between harvesting of paddy, jowar and bajra and sowing of wheat.

In the above three periods agricultural labourers naturally had no work. In addition between August-September, also the workers

experienced days of idleness.

It was found that in "off season" quite a few agricultural labourers moved towards the Gorakhpur city in search of employment.

Table 5.33 : Crop Calender of Rantdandi : 1974-75
(Standard Unit:2.5 acres for each crop).

Month	Agricultural operations	Additional out-side labour required	Approx.duration of dead season
January to mid-March	———	Dead Season	—— 2.5 months
Mid of March, April	Harvesting of wheat, arhar, oilseeds and crushing of oilseeds		
May	Threshing of wheat, arhar.		
June & July	———	Dead Season	—— 2 months
August	Sowing of paddy, jowar, bajra and arhar		
September to mid-October	———	Dead Season	—— 1.5 months
End of October-November and December	Harvesting of paddy, jowar and bajra and preparing field for wheat and sowing of wheat		

5.17 KHUTBHAR

Village Khutbhar in the Block Bansgaon of Bansgaon tehsil lies 18 km south of the city of Gorakhpur-Gola road. The bus station is about 2 km away from the village. Bus facilities are available throughout the day. There is no railway line not only for the village but for the entire tehsil of Bansgaon.

5.17.1 AREA AND POPULATION

Area of the village was 125 acres and the total population 700. The distribution of population according to occupation is given in the following table:

Table 5.34 : Distribution of Population According to Occupation in Khutbhar : 1974-75.

S.No.		Occupations	Dependent persons
1		Agriculture	550
	(a)	Owner cultivators	275
	(b)	Tenant cultivators	50
	(c)	Agricultural labourers	225
	(d)	Non-cultivating owners	-
2		Non-agriculture	150
	(a)	Non-farm production	65
	(b)	Commerce	35
	(c)	Transport	15
	(d)	Miscellaneous	35
3		Grand Total	700

As is evident from the table above, 79 per cent of the population were dependent on agricultural activities and

remaining 21 per cent on non-agricultural activities. Owner cultivators formed 40 per cent of the agricultural population. Agricultural labourers, tenant cultivators are dependent on others. It is significant to point out that agricultural labourers were 33 per cent of the agricultural population. There were no non-cultivating owners of land due to the small size of holdings. A considerable proportion of the population, viz., 13 per cent were dependent on non-farm production for their livelihood.

5.17.2 LAND UTILISATION AND PRINCIPAL CROPS

The total area of the village was 125 acres, among them 30 acres was under grazing land, tanks, gardens, barren land etc. The total cultivable area was about 95 acres, of which 25 acres were not cultivated due to lack of irrigation facilities. So, the total cropped area came to about 70 acres.

As shown in the table below, the following are the principal crops of the village:

Table 5.35 : Principal Crops and Their Acreage in Khutbhar : 1974-75.

S.No.	Crop	Acreage
1	Paddy	42
2	Wheat	45
3	Arhar	28
4	Oilseeds	12
5	Sugarcane	10

Note: The total acreage used in different crops may exceed the total cultivated area because of double-cropping mainly wheat and paddy.

Thus wheat occupied about 48 per cent of the total cultivated area. Arhar in this area was one of the important crops due to climatic conditions. Others were wheat and paddy.

5.17.3 DOUBLE CROPPING

Double cropping was general practice in the village as it was usually free from the ravages of floods and other natural calamities. Quite a few farmers were growing three crops in a year. Only 15 acres of land were cropped once, due to the inadequate facilities of irrigation. The following table gives relevant information about land utilization in the village:

Table 5.36 : Land Utilisation in Khutbhar : 1974-75

(In Acres)

S.No.	Item	Land Utilization
1	Total area	125
	of which	
	(a) Cultivated	95
	(b) Not cultivated	30
	of which	
	(i) under forests, tanks, streets, houses, grazing and barren land, etc.	15
	(ii) Others	15
2	Net area sown	70
	(a) Irrigated	55
	(b) Non-irrigated	15
3	Area sown more than once	55
4	Area cultivable but not cultivated	25
5	(3) as percentage of (2)	78.5
6	2(a) as percentage of (2)	78.5

5.17.4 IRRIGATION

As shown in the table above 55 acres of land in the village was under irrigation while total cropped area was 70 acres. The village experienced some difficulty in getting water for irrigation on time from government tube-wells. Private tube-wells could not be taken advantage of as they charged a high rate for irrigation.

5.17.5 DISTRIBUTION OF CULTIVATED HOLDINGS

It was estimated that 2.5 acres of land in every crop would constitute a standard unit. The distribution of holding by size is given in the following table:

Table 5.37 : Distribution of Holdings by Size in Khutbhar : 1974-75

(in acres)

S.No.	Size of holdings	Cultivators	
		Number	Percentage of the total
1	Below 2.5 acres	85	64.88
2	2.5 - 5.00 acres	29	22.12
3	5.00- 7.50 acres	10	8.63
4	7.50-10.00 acres	4	3.05
5	10.00-15.00 acres	3	2.29
6	15.00-20.00 acres	-	-
7	Above 20 acres	-	-
	Total	131	100.00

Note: Percentages may not add up to 100 as a result of rounding.

As seems from the table 5.37, the agricultural holdings of the village was generally small and uneconomic. More than 64 per cent of the holdings being below the standard units. About 35 per cent of cultivators possessed standard units. About 6 per cent of holdings were substantially higher than standard unit.

5.17.6 HARVESTING PERIOD

The months and duration of harvesting of the main crops are shown in the table below:

Table 5.38 : Harvesting Period of Main crops in Khutbhar : 1974-75.

S.No.	Crops	Months during which harvested	Approximate duration
1	Paddy Sugarcane	October last week, November to December	2.25 months
2	Arhar Wheat Oilseeds and others	2nd half of February to April	2.5 months

It is obvious that the harvesting season of wheat, arhar, oilseeds was more important in that it was as compared to the harvesting season for paddy, etc.

5.17.7 SEASONAL MOVEMENT OF LABOUR

As seen earlier wheat is the most dominant crop and cultivating labourers in the village are in large numbers. There is not enough work for most of the labourers throughout the year as majority of cultivators are small in the sense that they

cultivated less than the standard holding. Therefore, they looked for employment on other's farm. About 200 persons of this village went out for employment during sowing, treeding, harvesting and threshing seasons. Such employment was usually in the neighbouring villages. They went every morning and returned the same evening. Wages paid to them were on an average Rs. 4.50 for men and Rs. 3.50 for women workers. In no part of the year, the outside labour immigrates to this village nor is scarcity of labour experienced.

5.17.8 NON-AGRICULTURAL EMPLOYMENT

The pattern of non-agricultural employment is reflected in the following figures which give the number of persons engaged in some of these occupations:

Table 5.39 : Non-agricultural Employment in Different Occupations in Khutbhar : 1974-75

S.No.	Occupations	Number of persons
1	Pottery	35
2	Professions	6
3	Carpentary	10
4	Blacksmithy	6
5	Poultry-farming	-
6	Dairy-farming	10
7	Tailoring	4
8	Fishing	4
9	Shoe making	2
10	Trading	14
	Total	91

5.17.9 SMALL SCALE MANUFACTURING

Of the many industries in the village carpentary accounted for 10 workers. A large number of persons was engaged in pottery work. There were 14 traders engaged in selling wood to the nearest market and few engaged in transporting bricks on bullockcarts.

5.17.10 BIG CULTIVATORS

Small size of holdings appeared to be almost universal in the village. The following data of six cultivatorsfamilies owning more than 2.5 acres chosen at random sheds interesting light on their land holdings and work force employed from within and without the family. In spite of the fact that they had more land than most of the villagers, the big cultivators yearned of more land, which they thought they could cultivate with the available equipment and workers. The extent of their land hunger is indicated in the last column.

Table 5.40 : Data Relating to Big Cultivators in Khutbhar : 1974-75

S.No.	Size of family	No.of adult working members	Farm labourers employed on permanent basis	Total cultivated land (in acres)	Additional land needed (in acres)
1	14	3	2	17	-
2	15	4	1	14.5	-
3	18	6	-	12	10
4	13	5	-	10	15
5	14	4	-	9	15
6	16	7	-	7	20

5.17.11 SMALL CULTIVATORS

The holding of/small[9] cultivators, whose average size of holding was .8 acre were investigated. Among them 7 cultivators had no bullocks at all and got their land cultivated on rental basis or borrowed the pair of bullocks from big cultivators. It is interesting to note that the majority of families, i.e., 60 per cent worked on other's farms besides working on their own.

5.17.12 CROP CALENDER

As noted earlier work was not available for labourers within the village throughout the year. There are periods of rest forced on them by the seasonality of agriculture which provides most of the jobs. The table 5.41 gives the crop calender of Khutbhar and indicates broadly the period idleness, which is as follows:

(i) about one and a half months from January to mid-February.

(ii) about one and a half months from mid-May to June.

(iii) about one and a half months from September to mid-October between harvesting of paddy and sowing of wheat.

In the above three periods the agricultural labourers naturally had no work. It was found that during the idle season quite a few agricultural labourers moved to Khajni and Gorakhpur city in search of employment. Most of them worked as construction workers. Some vended fruits, vegetables, etc. A

few of them workers took to carrying loads at the village bus-stop.

Table 5.41 : Crop Calender of Khutbhar : 1974-75
(Standard unit:2.5 acres for each crop)

Month	Agricultural operations	Additional out-side labour required	Approx.duration of dead season
January to mid-February	———	Dead Season ———	1.5 months
2nd half of February to March-April	Sowing of sugarcane, harvesting of wheat, arhar, and crushing of oilseeds.		
May	Threshing of wheat, arhar		
Mid-May to June	———	Dead Season ———	1.5 months
July-August	Preparatory work, sowing, transporting and weeding of the paddy		
September to mid-october	———	Dead Season ———	1.5 months
End of October to December	Harvesting of paddy, and sugarcane, threshing of paddy and sowing of wheat, etc.		

5.18 JADDUPIPRA

Jaddupipra is a village under Partawal Block in Maharajganj tehsil, lies 36 km from the city on Gorakhpur-Maharajganj road. The nearest bus station is 5 km away, known as Partawal market. Motor and bus facilities are available throughout the day.

5.18.1 AREA AND POPULATION

Area of the village in 1974-75 was 475 acres and the total population 1,500. The distribution of population, according to occupation was as presented in the table below.

Table 5.42 : Distribution of Population According to Occupation in Jaddupipra : 1974-75.

S.No.	Occupations	Dependent persons
1	Agriculture	1,120
	(a) Owner cultivators	750
	(b) Tenant cultivators	-
	(c) Agricultural labourers	370
	(d) Non-cultivating owners	-
2	Non-agriculture	380
	(a) Non-farm production	210
	(b) Commerce	96
	(c) Transport	50
	(d) Miscellaneous	24
3	Grand Total	1,500

Of the total population, about 75 per cent belonged to agricultural occupations and remaining 25 per cent to non-agricultural. Owner cultivators formed about 50 per cent of the

agricultural population, while agricultural labourers constituted 26 per cent of the same. Non-cultivating owners of land as also tenant cultivators were conspicuous by their absence. A considerable proportion of the population, viz., 14 per cent were dependent on non-farm production for their livelihood.

5.18.2 LAND UTILISATION AND PRINCIPAL CROPS

The total area of the village was 474 acres, among them 24 acres was under grazing land, tanks, gardens, etc. The total cultivable area was about 450 acres, of which 20 acres were not cultivated due to lack of irrigation facilities. So, the total cropped area came to about 424 acres.

As shown in the following table, the following are the principal crops of the village;

Table 5.43 : Principal Crops and Their Acreage in Jaddupipra : 1974-75.

S.No.	Crop	Acreage
1	Paddy	265
2	Wheat	244
3	Sugarcane	54
4	Oilseeds and pees	45
5	Arhar	79

Note: The total acreage used in different crops may exceed the total cultivated area because of double-cropping mainly wheat and paddy.

Thus paddy occupied about 62 per cent of the total cultivated area. Arhar in this area was one of the important crops

due to climatic conditions. Others were wheat, sugarcane, oilseeds and pees.

5.18.3 DOUBLE CROPPING

Double cropping was a general practise in the village as it was usually free from the ravages of floods and other natural calamities. About 400 acres of land were cropped more than once. The following table gives relevant information about land utilization, irrigated land in the village:

Table 5.44 : Land Utilization in Jaddupipra : 1974-75

(in acres)

S.No.	Item	Land Utilization
1	Total area	474
	of which	
	(a) Cultivated	450
	(b) Not cultivated	24
	of which	
	(i) under forests, tanks, grazing land, house, and streets, etc.	24
	(ii) Others	-
2	Net area sown	424
	(a) Irrigated	404
	(b) Non-irrigated	20
3	Area sown more than onece	400
4	Area cultivable but not cultivated	26
5	(3) as percentage of (2)	94.3
6	2(a) as percentage of (2)	95.2

5.18.4 IRRIGATION

As shown in the table 5.44, 404 acres of land in the village was under irrigation while total cropped area was 424 acres. The village experienced some difficulty in getting water for irrigation in time from government tube-wells. Private tube-wells could not be taken advantage of as they charge a high rate for irrigation.

5.18.5 DISTRIBUTION OF CULTIVATED HOLDINGS

It was estimated that 2.5 acres of land in every crop would constitute a standard unit. The number of farm families cultivating their own land was 186 and the distribution of holdings by size is given in the following table:

Table 5.45 : Distribution of Holdings by size in Jaddupipra : 1974-75

S.No.	Size of holdings	Cultivators	
		Number	Percentage of the total
1	Below 2.5 acres	106	58.98
2	2.5 - 500 acres	32	17.2
3	5.00- 7.50 acres	18	9.67
4	7.50 -10.00 acres	12	6.44
5	10.00 -15.00 acres	10	4.38
6	15.00 -20.00 acres	5	2.58
7	Above 20 acres	3	1.6
	Total	186	100.00

Note: Percentages may not add up to 100 as a result of rounding.

It seems from the table that the agricultural holdings of the village were generally small and uneconomic and more than 58 per cent of them being below the standard unit. More than 41 per cent of the holdings were substantially higher than standard unit.

5.18.6 HARVESTING PERIOD

The months and duration of harvesting of the main crops are shown in the table below:

Table 5.46 : Harvesting Period of Main Crops in Jaddupipra : 1974-75.

S.No.	Crop	Months during which harvested	Approximate duration
1	Paddy Sugarcane	End of October to beginning of January	2.5 months
2	Arhar Wheat Oil seeds and pees	March to Mid-May	2.5 months

It is obvious that the harvesting season of wheat, arhar, sugarcane, paddy and oilseeds, etc.,was equally important.

5.18.7 SEASONAL MOVEMENT OF LABOUR

As seen earlier, paddy is the most dominant crop and cultivating labourers in the village are in large numbers. There is not enough work for most of the labourers throughout the year as majority of cultivators are small in the sense they cultivated less than the standard holding. Therefore,

they looked for employment on other's farm. About 150 persons of this village went out for employment during harvesting season. Such employment was usually in the neighbouring villages. They went every morning and returned the same evening. Wages paid to them were on an average rupees 3.50 for men and Rs. 2.50 for women workers. In no part of the year, the outside labour immigrates to this village nor is scarcity of labour experienced.

5.18.8 NON-AGRICULTURAL EMPLOYMENT

The pattern of non-farm employment is reflected in the following figures which give the number of persons engaged in these occupations. The four dominant groups among them appear to be fishing, trading, weaving and dairy-farming which together account for more than 70 per cent of the non-agricultural workers.

Table 5.47 : Non-agricultural Employment in Different Occupations in Jaddupipra : 1974-75

S.No.	Occupations	Number of persons
1	Weaving	15
2	Pottery	10
3	Trading	70
4	Professions	10
5	Carpentry	12
6	Black-smithy	9
7	Poultry-farming	6
8	Dairy-farming	15
9	Tailoring	4
10	Fishing	100
11	Others	28
	Total	279

5.18.9 SMALL SCALE MANUFACTURING

Of the many industries in the village weaving and black smithy accounted for 15 and 9 workers each. A large number of persons was engaged in fishing. There were 70 traders engaged in selling agricultural produce in the nearest market and few engaged in transporting bricks on bullock carts. About 15 traders are engaged in collecting milk and exporting to nearest market. About 30 persons were employed in big industries, like F.C.I., Gorakhpur, Cotton Cloth Mill, Bombay, on permanent basis.

5.18.10 BIG CULTIVATORS

Small size of holdings appeared to be almost universal in the village. The following data of five cultivator families owning more than 2.5 acres chosen at random sheds interesting light on their land holdings and work force employed from within and without the family. In spite of the fact that they had more land than most of the villagers, the big cultivators yearned of more land which they thought they could cultivate with the available equipment and workers. The extent of their land hunger is indicated in the last column.

Table 5.48 : Data Relating to Big Cultivators in Jaddupipra : 1974-75

S.No.	Size of family	No.of adult working members	Farm labourers employed on permanent basis	Total cultivated land (in acres)	Additional land needed (in acres)
1	12	3	3	26	-
2	21	4	2	24	-

(Contd)

Table 5.48 (Contd.)

3	18	4	2	20	-
4	19	4	1	12	10
5	15	5	1	11	15

5.18.11 SMALL CULTIVATORS

Similarly six small cultivators whose average holding came to less than 1 acre were investigated. Among them most of the cultivators had no bullocks at all and they got their land cultivated on rental basis or borrowed the pair of bullock from big cultivators.

5.18.12 CROP CALENDER

As noted earlier work was not available for labourers within the village throughout the year. There are periods of rest forced on them by the seasonality of agriculture which provides most of the jobs. The table below gives the crop calender of Juddupipra and indicates broadly the period of idleness, which is as follows.

(i) about one and a half months from 2nd half of January to February.

(ii) about two months in June and July due to the rainy season.

(iii) about a month in the 2nd half of September-mid-October between harvesting of paddy and sowing of wheat.

In the above three periods agricultural labourers naturally had no work. In addition between July-August, also the workers

experienced days of idleness.

It was found that in "off season" quite a few agricultural labourers moved towards the Maharajganj market and Gorakhpur city in search of employment.

Table 5.49 : Crop Calender of Jaddupipra : 1974-75
(Standard unit: 2.5 acres for each crop)

Month	Agricultural operations	Additional out-side labour required	Approx. duration of dead season
2nd half of January to February	———	Dead Season ———	1.5 months
March to April	Sowing and crushing of sugarcane, harvesting of wheat, arhar and crushing the oilseeds.		
May	Threshing of wheat, arhar		
June to July	———	Dead Season ———	2 months
August to Mid-September	Preparatory work, sowing, transplanting, weeding of paddy, sowing of arhar		
2nd half of September to mid-October	———	Dead Season ———	1 month
Mid-October to December	Harvesting of paddy, sugarcane and threshing, sowing of wheat, oilseeds, pees, etc.		

SECTION III

ESTIMATION OF UNDEREMPLOYMENT IN THE AGRICULTURE SECTOR AND ITS IMPACT ON DISTRICT ECONOMY

5.19 For the estimation of agricultural underemployment the "Work-Norm" method as explained in Chapter II was used, to get an overall picture of underemployment in the selected villages.

5.20 STANDARD HOLDING AND THE PROBLEM OF ADDITIONAL LAND DESIRED

Before we give results of our investigation, it may bear repetition to talk briefly of standard holding. For every village investigated a standard unit of cultivated holding has been determined. This holding is based on the assumption that it would provide full employment to an average cultivator and his family under existing conditions. On this basis "standard holding" for each village was estimated taking into consideration, irrigation facilities, cropping pattern and type of soil, etc. As these factors were largely the same for the entire area, we have taken 2.5 acres as the size of the standard holding. The data for "Big Cultivators" was presented in the village studies (vide "Big Cultivators" in each village) and was collected for about 4 or 5 "Big Cultivators" in each villages. Out of 27 big cultivators who were investigated 21 had holdings greater than thrice the

standard unit and 18 big cultivators had 6 adult working members each. This includes the permanent farm labour employed. It seems reasonable to conclude then that whenever family labour was insufficient to meet the labour-requirements of the cultivators, permanent farm labourers were employed. This is supported by the data about 16 of the 18 cultivators who had less than 4 working family members and therefore needed outside help for various operations on their holdings.

The problem of additional land desired hinged on the fact that the cultivators were both able and prepared to cultivate with the existing farm equipment. Our investigation revealed that the cultivators were quite aware of this and therefore their damands for additional land could be interpreted as being tempered by this factor. Such demands for additional land can more appropriately be examined with reference to the three classes of farmers.

5.20.1 SMALL CULTIVATORS

"Small Cultivators", according to our classification, are those having holdings smaller than the standard unit. In adequacy of holdings, we have seen, has been a universal feature with all the villages. Hence it is but natural that all these cultivators must be in a position to cultivate an additional piece of land. Out of 50 small farmers investigated, as many as 42, or more than 80 per cent of the total were,

in this sense in need of much additional land though the extent of it varied from one cultivator to another. The remaining 20 per cent did not desired additional land, not because they considered their existing holdings adequate, but because they did not possess or failed to arrange even the basic equipment of a cultivator, namely a pair of working bullocks.

5.20.2 STANDARD CULTIVATORS

To complete the picture, the demand of standard farmers for additional land may also be cited. Out of 13 "standard cultivators" examined, only 3 or less than 20 per cent desired additional land whereas remaining 10 or more than 80 per cent indicated that they did not want any additional land as they could cultivate only the existing land and no more.

5.20.3 BIG CULTIVATORS

In the case of big cultivators, out of 27 farmers examined only 17 or more than 50 per cent of the total desired additional land. The remaining cultivators had already holdings which were rough multiples of standard units and hence in their case the question of additional land did not arise.

5.21 EXTENT OF AGRICULTURAL UNDEREMPLOYMENT

5.21.1 SMALL CULTIVATORS

We have earlier explained that all those cultivators whose

cultivated holdings were smaller than the standard unit designated, or those we have called "Small Cultivators", were therefore, underemployed to what extent this phenomenon affected the cultivators in the selected villages has been briefly discussed in the account of the respective villages.[14] When brought together and viewed as an integral picture, the figures become more revealing and meaningful.

To start with, the problem can be analysed tehsil-wise. The enclosed table furnishes full data on the distribution of "Small cultivators", along with the percentages they form to total number of cultivators. These figures are presented in Table 5.50.

Gorakhpur Tehsil

The two villages, Ramghar Urf Chouri and Sonbarsa, are predominently wheat, paddy and sugarcane growing and the standard holdings are 2.5 acres.

In regard to the extent of underemployment, the two villages present more or less 9 similar pictures. In Ramghar Urf Chouri, while 71 per cent of the cultivators were unemployed in disguise or underemployed, the percentage of such small farmers in Sonbarsa was 77 per cent. This showed that the phenomenon penetrated farmers of Sonbarsa a little more pronouncedly.

It is interesting to note that of the 300 small farmers

14 Item 6 in each village study.

Table 5.50 : Distribution of Small Cultivators in Selected Villages by Tehsils: 1974-75

(Standard Holding:2.5 acres)

S.No.	Village	Total No. of cultivators	Total No. of small cultivators	Percentage (4 to 3)	No.of cultivators with holdings smaller than one but half or more than half standard unit	Percentage (6 to 3)
1	2	3	4	5	6	7
GORAKHPUR TEHSIL						
1.	Ramghar Urf Chouri	422	300	71.09	170	40.28
2.	Sonbarsa	133	102	76.61	65	48.71
	Total of these villages	555	402	72.43	235	42.34
BANSGAON TEHSIL						
3.	Manokishanpur	123	80	65.04	46	37.49
4.	Rantdandi	95	70	73.68	47	49.47
5.	Khutbhar	131	85	64.88	46	35.11
	Total of these villages	349	235	67.33	139	39.82
MAHARAJGANJ TEHSIL						
6.	Jaddupepra	186	106	56.98	95	51.70
	Total of these villages	186	106	56.98	95	51.70

Source: Data are calculated from Appendix Table A.XXVII.

in Ramghar Urf Chouri 54 had holdings of less than 1/4 standard unit 170 between 1/2 and one standard unit and 76 between 3/4 and one standard unit. The corresponding figures for Sonbarsa are 12, 65 and 25

Bansgaon Tehsil

In Bansgaon tehsil the three villages - Manokishunpur, Rantdandi and Khutbhar are predominantly wheat growing although in village Rantdandi paddy was also grown due to availability of flood water.

Regarding the extent of disguised unemployment or under-employment, it can be seen that the percentage of small cultivators was the highest in this tehsil in Rantdandi, being 73.68, while that in Manokishunpur and Khutbhar, it was 65 and 64.88 respectively.

It is interesting to note that of the 80 small farmers in Manokishunpur 16 had holdings of less than 1/4 standard unit, 46 between 1/2 and one standard unit and 18 between 3/4 and one standard unit. The corresponding figures for Rantdandi are 13, 47 and 10 and for Khutbhar are 26, 46 and 13.

Maharajganj Tehsil

Villages in this tehsil grow more or less the same crop, i.e., wheat, paddy, arhar, sugarcane and oilseeds. In regard to the percentage of small cultivators, it can be seen that it was the lowest in Jaddupipra, among all the six villages

investigated being as low as 57 per cent.

It is interesting to note that of 106 small farmers in Jaddupipra 21 had holdings of less than 1/4 standard unit, 55 between 1/2 and one standard unit and 30 between 3/4 and one standard unit.

With the above explanation we are now in a position to appreciate the problem, as it manifests itself in the villages under study, in its totality, when these facts are assembled together they provide valuable insight in to the problem.

The diffusion of disguised unemployment or underemployment does not follow the same pattern not only in villages in different tehsils but also in the villages of the same tehsil. This fact is very strikingly and pointedly brought about in the case of Rantdandi and Khutbhar of Bansgaon tehsil. Similar divergence is also visible in the case of Ramghar Urf Chouri and Sonbarsa of Gorakhpur tehsil. Both in regard to proportion of farmers affected by underemployment in general and farmers having less than half the normal employment as measured by the number of cultivators having less than half the standard unit of cultivation, there were wide variation amongst the villages studied.

However, for a rough picture, we can calculate the average underemployment for each tehsil.

Table 5.51 : Underemployment by Tehsil : "Small Cultivators" : 1974-75

S.No.	Tehsil	Percentage of cultivators having less than normal employment	Percentage of cultivators having half and more than half and less than normal
1	Gorakhpur Villages	72.43	42.34
2	Bansgaon villages	67.33	39.82
3	Maharaj Ganj Villages	56.98	51.70
	All Villages	65.58	44.62

Source: On the basis of Table 5.50.

Thus on the whole, roughly about 65 per cent of the farmers are affected by underemployment. More significant than this perhaps is the fact that as many as 45 per cent cultivators have not been even half of the normal employment.

5.21.2 STANDARD AND BIG CULTIVATORS

So far we have confined our discussions to the category of "Small Cultivators". For an over all picture, it would be also necessary to view this group as part of other categories of farmers. Table 5.52 is presented with this purpose. Here also, as in the case of "Small Cultivators", a great degree of divergence in distribution on among villages is visible.

To take only one or two outstanding instances in the Bansgaon tehsil while big cultivators were 19 per cent of the

Table 5.52 : Distribution of Small, Standard and Big Cultivators and their percentages in Selected Villages : 1974-75.

S.No.	Village	Total No. of Cultivators	No.of small Cultivators	No. of standard Cultivators	No.of big cultivators	Percentage (4 to 3)	Percentage (5 to 3)	Percentage (6 to 3)
1	2	3	4	5	6	7	8	9
GORAKHPUR TEHSIL								
1	Ramghar Urf Chouri	422	300	95	27	71.09	22.51	6.39
2	Sonbarsa	133	102	13	18	76.61	9.77	13.53
Total of these villages		555	402	108	45	72.43	19.45	8.1
BANSGAON TEHSIL								
3	Manokishunpur	123	80	20	23	65.04	16.26	18.61
4	Rantdandi	95	70	18	7	73.68	18.94	7.34
5	Khutbhar	131	85	29	17	64.88	22.12	12.97
Total of these villages		349	235	67	47	67.33	19.19	13.46
MAHARAJGANJ TEHSIL								
6	Jaddupipra	186	106	32	48	56.98	17.2	25.8
Total of these villages		186	106	32	48	56.98	17.2	25.8

Source: Statistics were collected during the field study, 1974-75.

total cultivators in Manokishunpur, their percentage in Rant-dandi was only 7. Similarly the variation in percentage of by cultivators ranges from 6 in Ramghar Urf Chauri to 14 in Sonbars of the Gorakhpur tehsil. Though there are wide variations in Gorakhpur tehsil in the case of standard cultivators, the proportions do not follow any uniform trend.

That once again points to the deficiencies of relying on mere averages for visualizing the distribution pattern. The following table attempts to arrive at the average proportions of each category of cultivators for all the selected villages:

Table 5.53 : Distribution of different categories of cultivators by Tehsil : 1974-75.

S.No.	Tehsil	Average percentage of small Cultivators	Average percentage of standard Cultivators	Average percentage of big Cultivators
1	Gorakhpur Villages	72.43	19.45	8.10
2	Bansgaon Villages	67.33	19.19	13.46
3	Maharajganj Villages	56.98	17.20	25.80
	Villages	65.58	18.61	15.78

Source: On the basis of Table 5.52.

On the basis of our definition, therefore, these figures can immediately be translated in terms of employment. While about 66 per cent of cultivators were affected by underemployment, the remaining about 34 per cent were fully employed. In the

category of the latter again, about 19 per cent had employment just equal to the normal full employment level.

Another general trend was revealed by increasing percentage of small cultivators as we pass from Maharajganu to Bansgaon and then to Gorakhpur tehsils. It increased from 59 per cent in Maharaganj to 67 per cent in Bansgaon and then to 72 per cent in Gorakhpur tehsils.

However, what is more important, the extent of the phenomenon is certainly quite large in all the tehsils.

5.22 INTENSITY OF UNDEREMPLOYMENT

We have till now been able to indicate is only general terms the extent to which the phenomenon of underemployment or disguised unemployment affects the cultivators. For a closer analysis, it would be essential to assess the "intensity" of underemployment of cultivators. As we have explained the definition of standard holding, it would be deduced that families holding land below the standard holding were under-employed. As the table 5.54 presents the classification of families according to land holding of individual families obtained from the village records of the respective villages. It clearly reveals that out of 1,090 cultivating households, 743 family households were below the standard holding land. The remaining 347 families holdings were above the standard

Table 5.54 : Distribution of Cultivating Households in the Sample villages : 1974-75

(X = Standard Holding, 2.5 acres)

S.No.	Villages	Total No. of cultivating household	Number of Households in Different Groups						
			Below 1/4 X	Between 1/2 & X	Between 3/4 & X	Between X & 2 X	Between 2X & 3X	Between 3X & 4X	Above 4 X
1	Ramghar Urf Chouri	422	54	170	76	95	10	9	8
2	Sonbarsa	133	12	65	25	13	4	3	11
3	Manokishanpur	123	16	46	18	20	14	5	4
4	Rantdandi	95	13	47	10	18	7	-	-
5	Khutbhar	131	26	46	13	29	11	4	2
6	Jaddupipra	186	21	55	30	32	25	18	5
	Total	1,090	142	429	172	207	71	39	30
	Percentage of each group to the total families	100.00	13.02	39.35	15.77	18.99	6.51	3.57	2.75

Source: On the basis of Appendix Table A.XXVIII.

Note: Same methods were also used by N.A. Majumdar, op.cit., pp. 82-83; Shakuntala Mehra, op.cit., pp. 112-113; B.P. Ratnawat, 'Agricultural Manpower and Economic Development, Popular Prakashan, Bombay, 1975, pp. 166-168.

holdings. In other words 68 per cent families are under-employed and the remaining are fully employed.

The intensity of their underemployment is a function of the proportion of the size of the land they hold to the size of the standard holding. For instance, the intensity of underemployment of that group of land holders who had land "below one fourth" the standard holdings or 0.875 on an average similarly the intensities of underemployment of other below standard holding groups can be calculated to be 0.25 and 0.125 reppectively according to their range of holdings. The disguised unemployment of their reppective villages are calculated by the number of households of each village multiplied by the intensities of their respective ranges, i.e., 0.875, 0.25 and 0.125. The intensity of underemployment of different groups and the total of each village is given in table 5.55.

It has been observed that 743 families which are classed as underemployed families, have to submit on work which can keep only 490 families fully employed. Thus the percentage of disguised unemployment was 34.05 per cent. This clearly reveals that surplus agricultural labour familes were 253 or 34.05 per cent as against the intensity of employment of 65.95 per cent in the sample villages.

5.23 MEASUREMENT OF SEASONAL UNEMPLOYMENT OF CULTIVATORS

We have so far discussed magnitude and intensity of

Table 5.55 : Intensity of Disguised Unemployment Among the Cultivators in the Six Selected Villages (Unit = Households) : 1974-75.

S.No.	Village	Total No. of disguised unemployed cultivators families	Intensity of Disguised Unemployment in Various Groups						Total disguised unemployment of the village	Percentage of disguised unemployment to total families of each village
			.875		.25		.125			
			No.of household	Disguised unemployment	No. of household	Disguised unemployment	No. of household	Disguised unemployment		
1	Ramghar Urf Chouri	300	54	42.75	170	42.5	76	9.5	94.75	31.58
2	Sanbarsa	102	12	10.5	65	16.25	25	3.125	29.875	29.29
3	Manokishunpur	80	16	14.00	46	11.5	18	2.25	36.75	45.93
4	Rantdandi	70	13	11.375	47	11.75	10	1.25	24.375	34.82
5	Khutbhar	85	26	22.75	46	11.5	13	1.625	35.875	42.20
6	Jaddupipra	106	21	18.375	55	13.75	30	3.75	35.875	33.84
	Total of each Column	743	142	124.25	429	107.25	172	21.5	253.00	34.05

Source: Compiled on the basis of Table 5.54.

underemployment. In this subsection the other aspect - seasonal unemployment is taken up for consideration.

The extent of seasonal unemployment of cultivators is sought to be assessed on the basis of the usual work, seasons in the villages concerned. Personal discussion with the cultivators and village officials, as also the crop-calender of the village went a long way in giving a fairly correct idea of the magnitude of seasonal unemployment.

As we know,there are two components of seasonal unemployment: (1) unemployment during the "off season" or "dead season" and (2) the "intermittent seasonal unemployment". Here we talk of only "off-season" unemployment because the intermittent seasonal unemployment by its very nature is very brief and insignificant.

Demarcating this component of seasonal unemployment has an additional significance from the employment point of view. In a way it can be argued that the farmer during this period is not "tied up" to his farm; nor is he biding his time to start any particular operation, as,for instance, waiting for rains to commence sowing. It is in this sense that it can be said that the cultivator during this period is as "free" as a landless labourer to take up any other employment.

In the crop calender of each village, both the timing of the "off season" and its duration with reference to the main

crop had been indicated. For a comprehensive view, these data are brought together and presented in the table 5.56.

However roughly estimated these figures of duration of "Off season" might be, certain general characteristics are clearly discernable from the table and they can be briefly summed up.

The first obvious characteristic is the duration of this season of no work. Even in Gorakhpur tehsil villages, which show the shortest off season it extends to about 4 months on an average. Then as we move to Bansgaon tehsil villages, the average period extends to from 4.5 to 6 months and again in Maharajganj tehsil from 4 to 5 months.

This variation in duration of "dead season" is evidenced not merely between villages of two different tehsils but also between villages belonging to the same tehsil. Special factors like possibility of taking a second crop, etc. are mainly responsible for this difference in the extent of "off-season" in the villages of the same tehsil.

On the whole, we can say that the intensity of employment was the highest in August, November, December and March to May during 1974-75. On the other hand, some touched a low pitch during the remaining six months. The lowest intensity was in the months of July, September and October in 1974-75 which were slack months so far as agricultural sector employment was

Table 5.56 : Period and Duration of Dead Season in Selected Villages : 1974-75.

S.No.	Village	Crop (Main)	Month's off-season	Approximate duration of the period
GORAKHPUR TEHSIL				
1	Ramghar Urf Chouri	Wheat, Paddy & Sugarcane	i) February to mid-March	1.5 months
			ii) June	1 month
			iii) September-October	1.5 months
2	Sonbarsa	Wheat & arhar	i) Mid-January to February	1.5 months
			ii) June to mid-July	1.5 months
			iii) Mid-September to October	1.5 months
BANSGAON TEHSIL				
1	Manokishunpur	Wheat and Paddy	i) February to mid-March	1.5 months
			ii) June to mid-July	1.5 months
			iii) Mid-September to October	1.5 months
2	Rantdandi	Wheat	i) January to mid-March	2.5 months
			ii) June to July	2 months
			iii) September to mid-October	1.5 months
3	Khatbhar	Wheat and Paddy	i) January to mid-February	1.5 months
			ii) Mid-May to June	1.5 months
			iii) September to mid-October	1.5 months
MAHARAJGANG TEHSIL				
1	Jaddupipra	Paddy	i) 2nd half of January- February	1.5 months
			ii) June to July	2 months
			iii) 2nd half of September-Mid-October	1 month

Source: On the basis of crop calender of each village study.

considered. The high intensity was obviously due to the major agricultural activity concentrated in the production of "kharif crops".

It against the rural back groud, current availability for gainful work is accepted as the definition for purposes of indicating seasonal unemployment, only the off season can be regarded as a period when cultivators are available for outside employment.

5.24 CONCLUDING REMARKS

In this way, we conclude that in Gorakhpur district there is heavy pressure of population on land. The agricultural economy is unable to provide continuous work throughout the year. The slack agricultural season frequently extends nearly five to six months. The growth of population, the pace at which the agricultural activities are developing within and outside the rural economy and resort by the owners of land to personal cultivation, have tended to increase the strains of poverty of cultivators with marginal holdings and landless agricultural workers.

Chapter VI

SUMMARY AND CONCLUSIONS

6.1 SUMMARY

The present study on "Agricultural underemployment in Uttar Pradesh : 1961-74" seeks to analyse in detail the problem of agricultural underemployment or disguised unemployment in Uttar Pradesh with special reference to Gorakhpur District for the period 1961-74. It examines the hypothesis that relative backwardness of agriculture in Uttar Pradesh during the period under review is mainly on account of the presence of severe underemployment in the sector. This agricultural underemployment appears to be the result of factors like supply of labour, limited opportunities of employment, lack of development in agricultural sector, seasonal fluctuations, cropping pattern and inadequate use of high yielding varieties.

Of the two methods of measuring underemployment in agriculture, viz., work-norm method and time-norm method, we have used mainly the former, the latter has been used to estimate seasonal unemployment. For data needs we have relied both on primary and secondary sources.

Chapter III is concerned with the agricultural under-employment in developing economies. It appears from the

detailed study of the problem that the unemployment and under-employment exist in almost all developing economies including India in varying degrees and form. It seems that the agricultural sector in developing economies, by and large, serves as a refuge to their surplus population without a corresponding increase in output. However, the approach of the developmental models with their implicit employment policy aiming at transferring workers from agricultural sector to the non-agricultural may not wholly solve the problem in view of its magnitude.

Chapter IV discusses agricultural underemployment in Uttar Pradesh as a whole. Uttar Pradesh,being the largest State of India in terms of population and standing fourth in terms of area, engaged nearly 86 per cent of the rural workers either as cultivators or as agricultural labourers according to the Census of 1971. It was found that nearly 73 per cent of the total farmers own less than 5 acres of land. In fact more than two-thirds of the rural workers are self-employed (or own account) workers or unpaid family workers. Improved performance of agriculture in Uttar Pradesh in the period under review has changed development and the capabilities of the economy as a whole over the coming years. In spite of this there is a serious agricultural unemployment and under-employment conditions prevailing in Uttar Pradesh. It has been deteriorating in the state from one plan to another. Planned development has failed in achieving any of the most cherished

objectives. The number of unemployed and underemployed people has increased during the plan period. This chapter also contains a review of the empirical studies on agricultural underemployment in Uttar Pradesh, which tend to support the presence of surplus labour in its agricultural sector.

Chapter V is concerned with underemployment in agriculture in the Gorakhpur District. According to the 1971 Census, 92 per cent of population depended on agriculture for their living in the district. There has been very little increase in agricultural production over years. To verify the extent and intensity of underemployment a field survey was conducted of the six selected villages of Gorakhpur District.

It has been rightly remarked that "wage-paid employment" in agriculture is intermittent and seasonal and is directly influenced by the farm techniques, small size of holdings and intensity of cultivation.

The methods adopted for the measurement of the intensity of underemployment and seasonal unemployment in the agricultural sector of Gorakhpur district and the estimates of the under-employment are only rough measures indicative of the tendency of growing underemployment.

The percentage of agricultural underemployment in Gorakhpur district as revealed by village surveys was 34.05 and the intensity of employment 65.95 per cent and the seasonal unemployment extended nearly five to six months in a given year.

The growth of population, the pace at which agricultural activities are developing within the rural economy and resort by the owners of land to personal cultivation, have tended to increase the strains of poverty of cultivators with marginal holdings and landless agricultural workers.

6.2 CONCLUSIONS

We may now mention our main conclusions:

(1) The higher percentage of underemployment in the agricultural sector of Uttar Pradesh is indicative of absence of alternative employment opportunities particularly of a non-agricultural nature in the rural areas and the long slack period.

(2) It appears that an important aspect of underemployment is the seasonal unemployment between the slack and harvest period of time to which those engaged in agriculture are subject.

(3) Further, possibility of worsening the situation with continued growth of population in future is a threat to the economic development of the State. Any scheme of economic development of the State has per force to be agriculture-oriented so that a majority of population may reap the benefits of economic prosperity.

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APPENDICES

Schedule I

ECONOMIC DATA OF THE VILLAGE

1. Name of the Village _____

2. Total population of the village _____

3. Total area of the village _____

4. Total number of households _____

5. Name of the Block under which village is situated _____

6. Nearest Motor/Bus/Railway Station if any _____

7. Distance from the Gorakhpur _____

8(a) Distribution of the village population according to occupation

S.No.	Occupation	Males	Females	Total	% total village population	Land Utilization
i.	Agriculture classes					
ii.	Cultivators of owned land					
iii.	Tenant cultivators					
iv.	Agricultural labourers					
v.	Cultivators-cum-labourers					
vi.	Land lords (Non-cultivating owners of land, agricultural rent receivers)					

8(b). Non-Agricultural Classes

i) Weavers
ii) Traders
iii) Potters
iv) Professional (Teachers/Others)
v) Carpenters
vi) Blacksmiths
vii) Poultry
viii) Dairy
ix) Honey
x) Others (specify)

9.

S.No.	Items	Thousand Acres (Area)
1.	Total area of the village	
2.	Total cultivated area	
3.	Area cultivable but not cultivated	
4.	Cropped area	
	(a) Total	
	(b) Single cropped area	
	(c) Double cropped area	
	(d) Irrigated area (mention nature of irrigation, i.e., by wells, tanks, canals, etc.)	
	(e) Un-irrigated area	
5.	Total area not cultivable	
	(a) Total	
	(b) Forests	
	(c) Barren land	
	(d) Others	

10.

S.No.	Crops	Seasons	Duration				
			Sowing	Weeding	Harvesting	Threshing	Daily hour of work
1	Rice	Kharif					
2	Wheat	Rabi					
3	Jowar	Kharif					
4	Bajra	Kharif					
5	Barley	Rabi					
6	Sugarcane	Perennial					
7	Cotton	Kharif					
8	Arhar	Rabi					
9	Oilseeds	Rabi					
10	Gram, beens	Rabi					

11. Employment among agricultural and Non-agricultural households.

Category of households and size of holdings	No. of families	Agricultural Occupations								Non-agricultural Occupations			
		During Peak Season				*During Slack Season*							
		Employed	Self Employ.	Part-time Empl.	Total	Employed	Self Employ.	Part-time Empl.	Total	Employed	Self Employ.	Part-time Empl.	Total
	With land Total												
1	Below 2.25 acres												
2	2.25 to 5 acres												
3	5 to 10 acres												
4	10 to 20 acres												
5	20 to 25 acres												
6	25 to 30 acres												
7	30 to 35 acres												
8	35 to 40 acres												
9	40 to 45 acres												
10	45 to 50 acres												
	Without Land Total												
	GRAND TOTAL												

12(a). How many families residing in this Village cultivate land in other villages ? _____

(b) How many families residing outside the village cultivate lands of the village? _____

13. Immigration of Labour

	No.	Months during migrate
A) Total No.of labourers/families migrating to the village for employment during harvest or other periods.	____	_____
B) Nature of work done by such labourers (Specify the Occupations).	____	_____
C) Duration of their stay in the village.	____	_____

14. Emigration of labour

A) Do any/families of this village emigrate to nearby village for employment during harvesting seasons and other periods? Yes/No

B) If so, give:

i) Months during which they migrate _____
ii) Crops harvested outside _____
iii) Total no. of families/persons emigrating _____
iv) Stay outside (duration) _____

S.No.	Name of industry	If seasonal character, what is working season	Within or outside the village	their distance	Approximate Total No.of persons engaged in

Signature of the reporter

Date

Schedule 2

AGRICULTURAL FAMILY INFORMATION

A. 1 Name of the Village _____

2 Name of the Tehsil and District _____

3 Name of the Block under which village is situated _____

4 Total population of the village _____

5 Total area of the village _____

6 Nearest Motor/Bus/Railway Station _____

7 Distance from Gorakhpur _____

8 Date of survey _____

(i) Whether survey is in Peak/Rabi/Kharif Season _____
(ii) Whether survey is in slack season _____

9 Name of the Head of the family _____

10 Number of the working members of the family _____

11 What is the size of the land _____

B. COMPOSITION OF THE FAMILY

S.No.	Family members' names	Age	Male/ Female	Relation with the Head of the family	Main Occupation	Subsidiary Occupation

C. Details about occupations: Name of the working member of the family.

	Months of work	Occupation	Main or subsidiary	Selfemployed, employed unemployed	Place of employment	Distance from residence Vill.(mile)	Total No. of working days	No.of hrs. working per day	Total working hours	If unemployed, what is the category
1	Jan.-Feb. (Magh)									
2	Feb.-Mar. (Phalgun)									
3	Mar.-April (Chait)									
4	April-May (Baisakh)									
5	May-June (Jeth)									
6	June-July (Asarh)									
7	July-Aug. (Savan)									
8	Augu-Sept. (Bhadon)									
9	Sept-Oct. (Kuwar)									
10	Oct.-Nov. (Kartik)									
11	Nov.-Dec. (Aghan)									
12	Dec.-Jan. (Pous)									

C. Details about Occupations (combined)

Rate of remuneration	Total earnings during the month	No.of days idle	Causes of idleness	Remarks: General remarks about the supplement.

D. Economic Groupwise distribution of households.

S.No.	Families	Male/Female	Total	Total village population	Land utilization
1	Owner cultivators of land and their dependents.				
2	Tenent cultivators and their dependence.				
3	Cultivating labourers and their dependents.				
4	Cultivator-cum-labourers, and their dependents.				
5	Non-cultivating owner of land, agricultural rent receiver.				

Total number of agricultural families

1. Traders _____
2. Carpenters _____
3. Potters _____
4. Blacksmiths _____
5. Professionals (Teachers Doctors, etc.) _____
6. Others (specify) _____

Total number of non-agricultural families

Grand total: _____

E. Land Data

S.No.	Type of land	Crops grown	Acres
1	Single cropped area	_____	_____
2	Double cropped area	_____	_____
3	Irrigated area (mention the nature of irrigation, i.e., by wells, tanks and canals, etc.)	_____	_____
4	Unirrigated area	_____	_____
5	Area not cultivated	_____	_____

F. Principal Crops : Agricultural Production

S.No.	Crop	Season	Total area under crop	average yield per acre	Total	DURATION				Daily hrs. of work
						Sowing	Weeding	Harvesting	Threshing	
1	Paddy									
2	Jowar									
3	Wheat									
4	Groundnut									
5	Sugarcane									
6	Oilseeds									
7	Cotton									
8	Arhar									
9	Others									

G. Hired Labour

1. Farm Servants (Permanent)

No.of permanent regular labour employed	Nature of their work (specify)	Annual remuneration paid		Other emoluments (Specify)	General remarks about their condition of work
		Kind	Cash		

2. Casual

Farm Operations	No.of outside labourers employed	Duration of employment	Months during which they are employed	Average wages paid	Remarks
1. Preparatory work					
2. Sowing/Transplanting					
3. Weeding					
4. Harvesting					
5. Threshing					

3. Additional Employment

(a) Do you think that size of your holdings is inadequate to give you enough employment and income? Or is the inadequacy due to other factors like lack of working capital, etc.

(b) If more land is offered to you, are you able to cultivate it? Are you prepared to cultivate it with the existing pair(s) of bullocks? If 'yes', how much more acres can you cultivate?

(c) If employment is offered to you, during the offered season, are you willing and able to accept it? Which type of work do you prefer -- Agricultural or non-agricultural?

i) How many other members of your family are also prepared for such employment? _____

ii) Specify the months during which you/they are willing to take such employment _____

(d) If employment is offered to you out side the village, are you willing and prepared to leave the village? If not, why?

(e) Why have you not taken to occupation like spinning, ropping making, etc., during your spare time?

(f) Can you not increase your acreage under irrigation as to provide you more work and income?

Date:

_____
Signature

APPENDIX TABLE A.I

Growth of Population of Uttar Pradesh : 1901-1971

Year	U.P. Million	Percentage increase or decrease	Density U.P. (Sq.km)	Density India (Sq.km)
1901	48.63	-	165	77
1911	48.15	- 0.97	164	82
1921	46.67	- 3.08	159	82
1931	49.78	+ 6.66	169	90
1941	56.53	+ 13.57	192	103
1951	63.22	+ 11.82	215	117
1961	73.75	+ 16.66	250	143
1971	88.34	+ 19.73	300	182

Sources: (i) Census of India, 1961, Vol. XV, U.P., Part II-A.

(ii) Census of India, 1971, Paper I of 1971 Supplement, Provisional Population Totals.

APPENDIX TABLE A. II

Distribution of Population, Sex Ratio, Growth Rate and Density of Population by District : 1951 to 1971

	State/ District	Population 1971			Sex Ratio (Females for 1,000 males)		Density of Population per sq.km.		Decennial Growth Rate of Population	
		P	M	F	1961	1971	1961	1971	1951-61	1961-71
	1	2	3	4	5	6	7	8	9	10
	UTTAR PRADESH	88,299,453	46,896,648	41,402,805	909	883	250	300	+ 16.66	+ 19.73
1	Uttar Kashi	149,937	79,074	70,863	964	896	15	19	+ 15.82	+ 22.06
2	Chamoli	297,350	143,452	153,898	1,108	1,073	28	33	+ 16.67	+ 17.47
3	Tehri Garhwal	396,857	180,580	216,277	1,202	1,198	79	90	+ 13.53	+ 14.13
4	Garhwal	539,593	247,572	292,021	1,164	1,180	89	99	+ 14.12	+ 11.87
5	Pithoragarh	308,098	148,623	159,475	1,055	1,073	37	43	+ 18.54	+ 16.89
6	Almora	742,380	353,014	389,366	1,080	1,103	90	106	+ 15.05	+ 17.20
7	Nainital	790,090	438,440	351,650	719	802	85	116	+ 73.10	+ 37.57
8	Bijnor	1,490,945	803,224	687,721	877	856	245	307	+ 21.01	+ 25.19
9	Moradabad	2,425,583	1,318,788	1,106,795	865	839	332	408	+ 19.73	+ 22.82
10	Badaun	1,644,992	906,872	738,120	837	814	274	319	+ 12.83	+ 16.53
11	Rampur	901,650	490,387	911,263	871	839	296	380	+ 12.27	+ 28.52
12	Bareilly	1,779,630	978,049	801,581	834	820	358	431	+ 16.51	+ 20.37
13	Pilibhit	751,948	411,229	340,719	842	829	176	215	+ 22.18	+ 22.02
14	Shahjahanpur	1,285,740	713,979	571,761	826	801	247	281	+ 12.53	+ 13.76
15	Dehradun	582,489	328,706	253,783	766	772	139	189	+ 18.61	+ 35.77
16	Saharanpur	2,059,315	1,129,538	929,777	825	823	292	373	+ 19.34	+ 27.47

(Contd.)

APPENDIX TABLE A. II

1	2	3	4	5	6	7	8	9	10
17 Muzaffarnagar	1,798,756	981,401	817,355	841	833	340	424	+ 18.26	+ 24.49
18 Meerutt	3,345,564	1,830,111	1,515,453	843	828	456	563	+ 18.93	+ 23.39
19 Bulandshahr	2,074,832	1,112,276	962,556	880	865	355	424	+ 15.84	+ 19.42
20 Aligarh	2,113,479	1,148,766	964,713	861	840	351	421	+ 14.37	+ 19.73
21 Mathura	1,292,602	708,817	583,785	838	824	282	340	+ 17.43	+ 20.66
22 Agra	2,319,238	1,266,673	1,052,565	840	837	387	487	+ 24.03	+ 24.55
23 Etah	1,568,251	852,163	716,088	865	840	292	352	+ 15.59	+ 20.66
24 Mainpuri	1,442,749	784,544	658,205	860	839	278	339	+ 18.82	+ 22.17
25 Farrukhabad	1,561,308	858,240	703,068	839	819	298	359	+ 18.54	+ 20.56
26 Etawah	1,444,942	789,827	655,115	847	829	273	334	+ 21.79	+ 22.22
27 Kanpur	2,992,562	1,650,877	1,341,685	811	813	389	489	+ 22.76	+ 25.67
28 Fatehpur	1,276,596	670,027	606,569	915	905	256	306	+ 18.06	+ 19.78
29 Allahabad	2,935,107	1,542,952	1,392,155	929	902	336	405	+ 19.29	+ 20.37
30 Jhansi	1,306,696	698,216	608,480	896	871	108	130	+ 23.54	+ 20.16
31 Jalaun	612,596	836,840	375,756	886	860	146	179	+ 19.80	+ 22.53
32 Hamirpur	987,970	525,294	462,676	924	886	110	137	+ 19.57	+ 24.36
33 Banda	1,184,935	630,898	554,037	905	878	125	155	+ 20.69	+ 24.24
34 Kheri	1,481,749	812,778	668,971	853	823	-	-	+ 18.90	+ 17.75
35 Sitapur	1,885,752	1,026,359	859,393	859	837	280	329	+ 15.94	+ 17.27
36 Hardoi	1,849,646	1,009,204	840,442	857	833	262	308	+ 15.54	+ 17.57
37 Unnao	1,481,565	782,963	698,602	892	892	268	323	+ 14.98	+ 20.75
38 Lucknow	1,630,609	888,625	741,984	839	835	530	645	+ 18.68	+ 21.79

(Contd.)

APPENDIX TABLE A.II

1	2	3	4	5	6	7	8	9	10
39	Rae Bareili	1,510,337	773,612	736,725	965	952	287	328	+ 13.68	+ 14.24
40	Bahraich	1,728,379	934,791	793,588	897	849	-	-	+ 11.63	+ 15.23
41	Gonda	2,302,970	1,226,567	1,076,403	933	878	283	314	+ 10.43	+ 11.08
42	Bara Banki	1,636,426	882,665	753,761	894	854	320	370	+ 12.23	+ 15.69
43	Faizabad	1,925,998	997,907	928,091	982	930	396	435	+ 10.50	+ 17.82
44	Sultanpur	1,641,900	834,454	807,446	1,017	968	319	371	+ 9.28	+ 16.20
45	Pratapgarh	1,424,792	703,606	721,186	1,062	1,025	336	382	+ 13.14	+ 13.78
46	Basti	2,978,719	1,564,595	1,414,124	949	904	359	408	+ 10.04	+ 13.44
47	Gorakhpur	3,037,869	1,579,490	1,458,379	977	923	406	481	+ 14.59	+ 18.43
48	Deoria	2,812,673	1,434,930	1,377,743	1,002	960	440	521	+ 12.96	+ 18.42
49	Azamgarh	2,862,785	1,430,424	1,432,36	1,032	1,001	919	498	+ 14.37	+ 18.88
50	Jaunpur	2,002,992	991,600	1,0I1,392	1,061	1,020	428	496	+ 14.01	+ 15.96
51	Ballia	1,585,899	799,490	786,409	1,035	984	420	498	+ 11.79	+ 18.72
52	Ghazipur	1,548,781	780,798	767,983	1,020	984	391	458	+ 15.83	+ 17.19
53	Varanasi	2,822,963	1,474,372	1,348,591	950	915	465	555	+ 19.43	+ 19.37
54	Mirzapur	1,541,809	807,964	733,900	940	908	110	136	+ 22.82	+ 23.65

Source: Census of India, 1971, Series I, Supplement I, Provision Population, Table-B.

APPENDIX TABLE A.III

Distribution of Population of Workers, Cultivators, Agricultural Labourers and Other Workers (Sex-wise) in the State of Uttar Pradesh in 1961, 1971

State		TOTAL POPULATION			TOTAL WORKERS		
		Persons	Male	Female	Persons	Male	Female
UTTAR PRADESH							
1961	Total	73,746,401	38,634,201	35,112,200	28,850,141	22,480,360	6,369,781
	Rural	64,266,506	33,401,345	30,865,161	25,915,749	19,772,819	6,142,930
	Urban	9,479,895	5,232,856	4,247,039	2,934,392	2,707,551	226,851
1971	Total	88,341,144	47,016,421	41,324,723	28,416,871	24,777,359	3,639,512
	Rural	75,952,548	40,214,012	35,738,536	24,902,712	21,490,022	3,412,690
	Urban	12,388,596	6,802,409	5,586,187	3,514,159	3,287,337	226,882

(Contd.)

APPENDIX TABLE A.XII (Contd.)

State		CULTIVATORS			AGRICULTURAL LABOURERS		
		Persons	Male	Female	Persons	Male	Female
UTTAR PRADESH							
1961	Total	18,428,376	14,302,062	4,126,314	3,261,178	2,035,588	1,225,590
	Rural	14,577,977	14,166,751	411,226	2,127,897	2,005,706	122,191
	Urban	1,850,399	135,311	1,715,008	133,281	29,882	103,399
1971	Total	15,910,591	14,644,676	1,265,915	5,497,317	4,196,029	1,301,288
	Rural	15,715,718	14,456,795	1,258,923	5,346,492	4,058,839	1,287,653
	Urban	1,204,773	187,881	6,912	150,825	137,190	13,635

(Contd.)

APPENDIX TABLE A.III (Contd.)

State		OTHER WORKERS			NON-WORKERS		
		Person	Male	Female	Person	Male	Female
UTTAR PRADESH							
1961	Total	23,280,587	6,132,710	17,147,877	44,896,260	16,153,840	28,742,419
	Rural	22,329,875	3,600,362	5,609,513	38,350,758	13,628,526	24,722,231
	Urban	950,712	2,532,348	11,538,364	6,545,502	2,525,314	4,020,188
1971	Total	7,008,963	5,936,654	1,072,309	59,947,908	22,145,513	37,802,395
	Rural	3,840,502	2,974,388	866,114	51,093,558	18,690,702	32,452,876
	Urban	3,168,461	2,962,266	206,195	8,854,328	3,504,811	5,349,512

SOURCE: Census of India, 1971, Series I, Part I, 1971, pp. 31-65.

APPENDIX TABLE A.IV

Distribution of Workers, Non-workers, Cultivators, etc., by Rural and Urban Areas and by Sex : 1961-and 1971
(Percentages)

State		Workers/Non-workers as Percentage of Total Population					
		Workers		Percentage variation	Non-Workers		Percentage variation
		1961	1971		1961	1971	
UTTAR PRADESH							
Total	P	39.12	32.16	- 6.96	60.90	69.1	+ 8.20
	M	58.20	52.80	- 5.40	41.81	47.8	+ 5.99
	F	18.14	8.78	- 9.36	81.90	93.3	+11.40
Rural	P	40.32	32.17	- 8.15	59.68	68.5	+ 8.82
	M	57.19	53.55	- 5.64	40.81	47.0	+ 6.19
	F	19.90	9.52	-10.38	80.10	92.7	+12.60
Urban	P	30.95	28.41	- 2.54	69.05	72.3	+ 3.25
	M	51.74	48.40	- 3.34	48.26	52.1	+ 3.84
	F	5.34	4.07	- 1.27	94.66	96.9	+ 2.24

(Contd.)

APPENDIX TABLE A.IV (Contd.)

State		Percentage of Cultivarors, Agricultural Labourers and Other Workers to Total Workers								
		Cultivators		Percentage variation	Agricultural Labourers		Percentage variation	Other workers		Percentage variation
		1961	1971		1961	1971		1961	1971	
UTTAR PRADESH										
	P	63.8	55.9	- 7.9	11.3	19.3	+ 8.0	80.6	24.6	-56.0
Total	M	63.6	51.5	-12.1	9.0	16.9	+ 7.9	27.2	23.9	- 3.3
	F	64.77	34.78	-29.99	19.2	35.7	+16.5	16.0	29.4	+13.4
	P	56.2	63.1	+ 6.9	8.2	21.4	+13.2	86.1	15.4	-70.7
Rural	M	70.9	67.2	- 3.7	10.1	18.8	+ 8.7	18.2	13.8	- 4.4
	F	6.6	36.8	+30.2	1.9	37.7	+35.8	13.8	25.3	+11.5
	P	63.0	34.2	-28.8	4.5	4.2	- 0.3	32.3	90.1	+57.8
Urban	M	4.9	5.7	+ 0.8	1.1	4.1	+ 3.0	83.5	90.1	- 3.4
	F	-	3.0	-	-	6.0	-	91.89	90.8	- 1.09

Source: (i) Census of India, 1971, Part I, 1971, Table E.

(ii) Percentage variation are calculated by the author.

APPENDIX TABLE A.V

Total Income of India and Uttar Pradesh at Current and Constant Prices: 1960-61 to 1970-71

Year	Total income (in crore Rupees) at current prices		Per cent share of U.P.to India	Total income (in crore Rupees) at constant 1960-61 prices		Per cent share of U.P.to India
	India	U.P.		India	U.P.	
1960-61	13,294	1,799	13.5	13,294	1,799	13.5
1961-62	14,050	1,914	13.6	13,763	1,839	13.4
1962-63	14,873	1,990	13.4	14,045	1,839	13.1
1963-64	17,094	2,235	13.1	14,845	1,836	12.4
1964-65	20,061	2,945	14.7	15,917	2,048	12.9
1965-66	20,621	2,966	14.4	15,021	1,996	13.3
1966-67	23,903	3,638	15.2	15,243	1,947	12.8
1967-68	28,374	4,201	14.8	16,660	2,114	12.7
1968-69	28,678	4,022	14.0	17,057	2,167	12.7
1969-70	31,174	4,492	14.0	17,955	2,310	12.9
1970-71(Q)	34,200	4,580	13.4	18,755	2,421	12.9

Source: Draft Five Year Plan, Uttar Pradesh, Vol.I, 1973, Table 5.2,p.40.

(Q) = Quick estimates.

APPENDIX TABLE A.VI

Per capita Income of India and Uttar Pradesh at Current and Constant Prices: 1960-61 to 1970-71

Year	Per Capita income at current prices (Rs.)		U.P. as percentage of India	Per capita income at constant (1960-61) prices (Rs.)		U.P. as percentage of India
	India	U.P.		India	U.P.	
1960-61	306	246	80.4	306	246	80.4
1961-62	316	257	81.3	310	247	79.7
1962-63	328	261	79.6	309	241	78.0
1963-64	368	287	78.0	320	236	73.8
1964-65	423	370	87.5	336	357	76.5
1965-66	426	364	85.4	310	245	79.0
1966-67	483	446	92.3	308	239	77.6
1967-68	561	506	90.2	329	255	77.5
1968-69	555	476	85.8	330	256	77.6
1969-70	589	522	88.6	339	269	79.4
1970-71	633	523	82.6	347	276	79.8

Source: Draft Five Year Plan, Uttar Pradesh, Vol.I, 1973, Table 5.4, p. 42.

APPENDIX TABLE A.VII

Rates of Growth in Different Sectors of Uttar Pradesh and India

(Percentages)

S.No.	Sector		First Plan	Second Plan	Third Plan	Three Annual Plans	1st Three years of IV Plan	1969-70 over 1968-69	1969-70 over 1960-61
1	Agriculture and Allied	U.P.	1.1	3.8	0.4	2.1	1.2	7.3	1.7
		India	3.0	3.3(-)	1.1	5.3	-	5.1	1.7
2	Total of mining, quarrying and large scale and small scale manufactures	U.P.	0.5	1.0	5.3	1.3	9.4	6.7	4.1
		India	3.6	3.7	6.1	2.9	-	5.6	5.0
2.1	Large scale manufacturing	U.P.	(-)1.7	8.6	8.3	(-)2.6	22.8	15.4	5.3
		India	-	-	8.0	1.9	-	5.9	5.7
2.2	Small Scale manufacturing	U.P.	(-)1.0	1.0	3.8	3.4	2.8	2.4	3.5
		India	-	-	4.8	3.3	-	3.4	4.1
3	Total commerce, transport and communication	U.P.	(-)3.6	0.1	3.7	4.5	5.0	4.5	4.0
		India	3.5	4.6	5.7	3.7	-	5.6	5.0
4	Other services	U.P.	(-)4.1	0.9	4.7	1.2	3.2	3.7	3.4
		India	4.5	6.0	5.7	4.5	-	4.8	5.2
5	Other Sectors	U.P.	1.9	1.8	2.1	2.1	3.0	6.2	2.6
		India	3.4	4.1	2.6	4.3	-	5.2	3.4
6	All Sectors Excluding agriculture, animal husbandary	U.P.	(-)2.9	0.1	4.6	2.2	5.3	4.8	3.8
		India	-	-	5.8	3.7	-	5.2	5.1

Sources: (i) Tribuvan Prasad, "Rate of Economic growth in Uttar Pradesh and reasons for its retarted development", paper read at the Seminar on "Economic Backwardness of U.P.", November 1971, Lucknow, p.10.

(ii) Draft of Vth Five Year Plan, Uttar Pradesh, Vol.I, 1973, p. 45.

APPENDIX TABLE A.VIII

Importance of Uttar Pradesh in Agricultural Production
(Average of 1968-69 to 1970-71

Crop	UTTAR PRADESH		Rank in the country	INDIA	
	Production (million tonnes)	Share in the Country's production		Per hectare yield (Kg)	Per hectare yield (Kg)
FOOD CROPS					
Wheat	6.6	32.2	1	1,210	1,228
Barley	1.4	50.7	1	957	986
Gram	1.6	32.6	1	744	666
Rice	3.4	8.3	6	748	1,094
Jowar	0.5	4.9	6	597	506
Bajra	0.7	12.8	3	689	457
Maize	1.4	22.9	1	955	1,079
Ragi	0.2	8.8	4	747	790
Small millets	0.3	19.0	3	626	378
Tur	0.7	37.7	1	1,166	701
Other pulses	0.9	20.9	1	794	372
Total Food grain	17.8	17.6	1	912	819
NON-FOOD CROPS					
Sugarcane	55.6	43.0	1	42,271	48,938
Rabi seed Must.	1.1	69.3	1	536	520
Sesamum	0.1	23.0	1	171	200
Linseed	0.2	39.2	1	219	235
Potato	1.5	34.0	1	9,927	8,654

Source: Government of India, Ministry of Agriculture, Directorate of Economics and Statistics. Estimated of Area and Production of Principle crops of India, 1970-71, 1971.

APPENDIX TABLE A. IX

Production of Principal Crops From 1950 to 1974 in U.P.

(Million Tonnes)

Crops	1950-51	1960-61	1970-71	1973-74
Rice	2.00	3.15	3.70	3.84
Jowar	0.65	0.49	0.49	0.48
Bajra	0.67	0.42	0.88	0.81
Maize	0.65	0.62	1.80	1.10
Wheat	2.72	3.95	7.89	6.01
Barley	1.71	1.69	1.43	1.17
Pulses	3.02	3.82	1.07	1.18
Total Food	11.78	14.49	19.59	15.73
Oilseeds	0.78	1.30	1.85	1.56
Sugarcane	29.49	54.52	54.52	54.14
Potato	0.64	0.30	1.49	1.73

Source: Eastern Economist, Delhi, Vol. 65, September 26, 1975.

APPENDIX TABLE A.X

Growth Rates of Production of Foodgrains : 1960-61 to 1972-73

(Production in Lakh tonnes)

State(a)	Average of 1959-60 to 1961-62	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72
Himachal Pradesh	3.3	8.5	6.2	7.7	9.0	9.6	9.8	9.5	9.5
Punjab	36.5	40.4	33.9	42.2	54.1	62.5	69.4	73.1	79.3
Haryana	24.3	27.0	20.8	25.7	39.9	30.1	45.7	47.5	45.5
Gujarat	20.6	28.8	24.2	21.9	33.3	23.5	32.2	44.1	42.2
Manipur	1.1	1.1	2.3	2.9	2.5	3.2	2.4	1.7	1.8
Jammu & Kashmir	6.0	5.7	5.0	6.5	6.8	11.0	11.5	9.4	9.6
Tripura	1.6	2.0	2.1	2.0	2.1	2.1	2.4	2.6	2.7
Karnataka	39.5	48.4	35.4	41.7	46.7	50.5	58.9	59.6	60.6
West Bengal	52.9	62.6	54.4	53.8	57.4	71.6	73.6	74.9	78.6
Rajasthan	49.7	53.1	38.4	43.5	66.0	40.1	47.5	88.4	63.3
Assam	16.3	18.7	18.0	17.1	19.3	21.7	20.1	20.3	20.0
Uttar Pradesh	140.1	152.1	133.1	118.7	167.8	163.0	175.5	195.9	177.0
Tamil Nadu	53.9	56.9	50.3	57.4	57.6	54.2	62.4	69.7	69.4
ALL INDIA	799.1	893.6	723.5	742.3	950.5	940.1	995.0	1,084.2	1,501.7
Kerala	10.7	11.5	10.5	11.1	11.5	14.3	12.4	13.2	13.7
Bihar	71.4	75.3	71.5	41.3	86.3	88.7	75.5	78.8	90.7
Meghalaya	1.0	1.1	1.1	1.0	1.1	1.3	1.2	1.2	1.2
Orissa	40.2	49.5	37.3	43.5	43.3	54.3	50.3	51.0	43.5
Madhya Pradesh	95.7	102.3	68.2	63.5	102.3	94.6	97.7	109.2	116.3
Andhra Pradesh	66.8	77.0	61.0	77.2	71.9	68.5	73.9	74.1	72.9
Maharashtra	66.2	67.5	46.9	60.5	68.3	71.6	69.1	55.8	49.5
Nagaland	0.8	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.3

(Contd.)

APPENDIX TABLE A.X (Contd.)

State(a)	Average of 1970-71 to 1972-73	1972-73		Annual rate of increase between the triennium ended 1961-62 and the triennium ended 1972-73 (%)
		Production	Percentage share in all States production	
Himachal Pradesh	9.4	9.3	1.0	10.0
Punjab	76.4	76.8	8.1	7.0
Haryana	39.5	39.5	4.1	5.6
Gujarat	22.1	22.1	2.3	5.2
Manipur	1.8	1.8	0.2	4.6
Jammu & Kashmir	9.5	9.5	1.0	4.3
Tripura	1.9	1.9	0.2	3.8
Karnataka	46.0	46.0	4.8	3.1
West Bengal	67.7	67.7	2.1	3.1
Rajasthan	51.5	51.5	5.4	2.8
Assam	24.0	24.0	2.5	2.5
Uttar Pradesh	179.0	179.5	18.9	2.5
Tamil Nadu	69.6	69.6	7.3	2.3
ALL INDIA	1,029.3	952.0	100.0	2.3
Kerala	13.5	13.6	1.4	2.1
Bihar	87.6	93.2	9.8	1.9
Meghalaya	1.2	1.2	0.1	1.8
Orissa	47.3	47.5	5.0	1.5
Madhya Pradesh	110.7	106.7	11.2	1.3
Andhra Pradesh	67.7	56.1	5.9	0.1
Maharashtra	45.2	30.1	3.2	-3.1
Nagaland	00.4	0.3	-	-6.1

Note: States are ranked by the last column.

Source: Basic Statistics relating to the Indian economy, Vol.II, States, Commerce Research Bureau, October, 1974.

APPENDIX TABLE A.XI

Growth Rates of Agricultural Production, Area and Productivity
1952-53 to 1969-70

(Per cent per annum)

State[a]	Area	Productivity	Production			Ppopulation
	1952-53 and 1964-65	1952-53 and 1964-65	1952-53 and 1964-65	1964-65 and 1967-70	1952-53 and 1969-70	1951 and 1971
States with above-average growth rate						
Haryana and Punjab	1.9	2.6	4.6	16.7[b] 9.3	- +	2.7 1.9
Gujarat	0.5	4.1	4.6	-0.9	4.5	2.5
Tamil Nadu	1.1	3.0	4.2	2.4	4.3	1.6
Himachal Pradesh	0.7	2.7	3.4	3.4	3.9	2.0
Karanataka	0.8	2.7	3.5	-1.0	3.4	2.1
Kerala	1.3	1.0	2.3	4.6	3.0	2.3
All-India	1.2	1.8	3.0	1.3	3.0	2.1
States with below-average growth rate						
Maharashtra	0.4	2.5	2.9	-0.6	2.5	2.3
Andhra Pradesh	0.3	2.5	2.7	-0.7	2.5	1.7
Uttar Pradesh	0.7	0.9	1.7	1.7	2.2	1.7
Rajasthan	2.9	-0.1	2.7	-3.0	2.1	2.4
Madhya Pradesh	1.3	1.2	2.5	-1.4	1.9	2.4
West Bengal	0.6	1.3	1.9	0.6	1.7	2.7
Orissa	0.8	1.7	2.5	0.3	1.7	2.1
Assam & Meghalaya	1.3	-0.1	1.2	1.3	1.5	3.0
Bihar	0.7	2.3	3.0	-2.1	0.7	1.9

Source: Basic statistics relating to the Indian Economy, Vol.II, States, Commerce Research Bureau, October, 1974, Table 6.1

Notes: (a) States are ranked by growth rates of Production between 1952-53 and 1969-70; (b) Between 1965-66 and 1969-70.

APPENDIX TABLE A.XII

Utilization of Land in Uttar Pradesh : 1950-51 to 1970-71

('000 hectares)

Year	Reported Area	Forest	Barren & un-culturable land & land put to non-agricultural uses	Land which can be utilized for cultivation	Current fallow	Net area sown	Area sown more than once	Total cropped area	Intensity of cropping	Net area irriga-ted
1950-51	29,259	3,194	4,741	4,015	1,078	16,231	3,729	19,960	122.9	4,840
1955-56	30,103	4,272	4,445	4,330	191	16,865	4,150	21,015	124.5	4,951
1960-61	29,495	3,794	4,503	3,836	174	17,188	4,542	21,730	126.5	5,074
1965-66	29,430	3,775	4,503	2,914	893	17,345	4,730	22,075	127.3	5,874
1968-69	29,585	3,979	4,483	2,886	821	17,416	4,944	22,360	128.6	6,562
1969-70	29,889	4,969	3,461	2,882	792	17,385	5,556	22,941	131.9	6,836
1970-71	29,880	4,988	3,453	3,258	838	17,343	5,864	23,207	133.8	7,219 (25 % of country)

Source: Draft of Fifth Five Yean Plan, Govt. of Uttar Pradesh, Vol. I, 1973, pp. 16-17.

Note: Reporte area includes cultivable waste, permanent pasture and other grazing land area under miscellaneous trees, crops and groves and other fallow land and excludes current fallow and net area sown.

APPENDIX TABLE A.XIII

Percentage of Double Cropped Area to Net Area Sown in Uttar Pradesh : 1950-51 to 1970-71

REGION	1950-51	1955-56	1960-61	1965-66	1968-69	1969-70	1970-71
Hill	16.9	18.2	20.0	21.7	22.7	48.4	65.8
Western	22.0	24.7	27.1	28.8	34.2	35.5	39.4
Central	22.5	24.6	27.0	28.3	27.2	29.6	30.6
Eastern	29.6	30.7	31.7	32.4	30.4	34.6	34.0
Bundelkhand	6.3	6.7	9.1	8.2	8.5	9.6	10.3
Uttar Pradesh	23.0	24.6	26.4	27.3	28.4	32.0	33.0

Source: Draft Fifth Five Year Plan, Uttar Pradesh, Vol.I, p. 19, 1973.

APPENDIX TABLE A.XIV

Area Irrigated by Size of Holdings and by Different Sources in Uttar Pradesh 1970-71

Categories of holdings	Percentage No. of holdings receiving irrigation	Percentage Area Irrigated By					
		Canals	Tanks	Wells	Tube-wells	Other sources	Total
Less than 1 hectare	62.0	30.1	5.5	25.9	32.4	6.1	100.0
1 to 2 hectare	19.0	33.6	4.7	23.7	32.9	5.1	100.0
2 to 4 hectare	12.5	35.5	3.7	21.8	35.0	4.0	100.0
1 to 4 hectare	31.5	34.6	4.1	22.7	34.1	4.5	100.0
4 to 10 hectare	5.7	38.0	2.5	18.0	38.1	3.4	100.0
10 hectare and above	0.8	43.0	2.2	12.0	38.2	4.6	100.0
All categories	100.0	35.0	3.9	21.6	34.9	4.6	100.0

Source: Agriculture Census of India, 1970-71, 1975, p. 103.

APPENDIX TABLE A.XV

Number of Days of Unemployment of Agricultural Labourers Classified According to Reasons

Zones/States	Due to want of work		Due to other reasons		Unclassified		Days unaccounted		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
CENTRAL ZONE	32	90	20	23	20	49	19	23	91	185
Uttar Pradesh	35	108	22	23	16	39	15	39	88	209
Madhya Pradesh	27	75	16	23	26	51	24	18	93	167
EASTERN ZONE	53	99	12	17	7	18	17	54	89	188
Bihar	70	103	15	18	7	13	26	77	118	211
West Bengal	37	73	8	22	3	11	4	10	52	116
Orissa	40	105	7	9	10	37	16	9	73	160
Assam	17	43	22	45	19	16	-	9	58	113
SOUTH ZONE	66	125	18	27	7	23	39	43	130	218
Andhra Pradesh	16	99	7	27	7	34	79	73	109	233
Tamil Nadu	106	155	20	25	7	11	6	16	139	207
Kerala	106	120	38	37	4	21	18	22	166	200
WEST ZONE	38	62	12	25	19	49	14	10	83	146
Gujarat	44	82	8	11	9	16	9	6	70	115
Maharashtra	32	44	10	28	22	70	18	12	82	154
Mysore	44	8	17	27	19	31	12	83	92	149
NORTH ZONE	32	71	17	35	7	13	12	46	68	165
Rajasthan	41	81	39	52	11	17	8	16	99	166
Punjab	27	59	8	12	5	7	13	87	53	165
ALL INDIA	48	96	15	24	12	33	23	34	98	187

Source: Rural Labour Enquiry (1964-65), Final Report of Labour Bureau (1975).

Note: (1) Information in this table relates to agricultural labour households.
(2) "Days unaccounted" are arrived at by substracting from 315 days, the total of Cols. 2,3,4 in the table in Col.6.

APPENDIX TABLE A.XVI

Increase in the Labour Force by States during Third, Fourth and Fifth Plans

	States	Third Five Year Plan (1961-66)			Fourth Five Year Plan (1966-67)			Fifth five Year Plan (1971-76)		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
1	Andhra Pradesh	0.83	0.40	1.23	1.04	0.51	1.55	1.32	0.66	1.98
2	Assam	0.33	0.18	0.51	0.47	0.26	0.73	0.80	0.34	0.94
3	Bihar	1.25	0.50	1.75	1.85	0.84	2.69	2.18	1.06	3.24
4	Gujarat	0.67	0.29	0.96	0.86	0.40	1.26	1.02	0.46	1.48
5	Jammu & Kashmir	0.06	0.03	0.09	0.06	0.03	0.09	0.08	0.03	0.11
6	Kerala	0.54	0.26	0.80	0.68	0.31	0.99	0.80	0.36	1.16
7	Madhya Pradesh	0.78	0.37	1.15	1.15	0.56	1.79	1.57	0.77	2.34
8	Madras	0.74	0.36	1.10	0.89	0.43	1.32	1.14	0.54	1.68
9	Maharashtra	1.18	0.52	1.70	1.50	0.72	2.22	1.72	0.87	2.59
10	Mysore	0.65	0.32	0.97	0.79	0.40	1.19	1.06	0.53	1.59
11	Orissa	0.41	0.21	0.62	0.54	0.29	0.83	0.69	0.35	1.04
12	Punjab	0.74	0.32	1.06	0.96	0.42	1.38	1.10	0.48	1.58
13	Rajasthan	0.69	0.30	0.99	0.87	0.40	1.27	1.07	0.49	1.56
14	Uttar Pradesh	1.87	0.85	2.72	2.36	1.15	3.51	3.27	1.48	4.75
15	West Bengal	0.95	0.50	1.45	1.19	0.68	1.87	1.57	0.89	2.46
	Total	11.69	5.41	17.10	15.21	7.40	22.61	19.19	9.31	28.50

Source: Manpower in Uttar Pradesh, A Fact-book, Government of U.P., Planning Department, 1965, p. 104.

APPENDIX TABLE A.XVII

Areas, Number of Villages and Towns and Population of the District and Tehsils (1971)

Name of Tehsil	Area in sq.km	POPULATION		Density of population	No. of villages	No.of towns
		Total	Rural			
Pharenda	1,495.5	506,357	506,357	339	641	-
Maharajganj	1,755.2	674,221	674,221	384	765	-
Gorakhpur (Sadar)	1,701.6	1,149,441	918,500	675	1,265	1
Bansgaon	1,383.3	708,188	698,941	512	1,965	1
Gorakhpur District	6,316.0	3,038,177 (100.00)	2,798,019 (92.10)	481	4,625	2

Source: District Census Hand-book, 1971, Part X-A, Series 21, Uttar Pradesh.

Note: Percentages are within brackets.

APPENDIX TABLE A.XVIII

Variation in Population of Gorakhpur District During Sixty Years 1901 to 1971

Year	Persons	Decade variation	Percentage decade variation	Males	Females
1901	1,450,884	-	-	721,648	729,236
1911	1,580,966	+ 130,082	+ 8.97	799,487	788,749
1921	1,612,851	+ 31,885	+ 2.02	817,111	795,740
1931	1,801,373	+ 188,522	+ 11.69	921,602	879,771
1941	1,993,661	+ 192,288	+ 10.67	1,006,483	987,178
1951	2,238,588	+ 244,927	+ 12.29	1,128,000	1,110,588
1961	2,565,182	+ 326,594	+ 14.59	1,297,297	1,267,885
1971	3,038,177	+ 147,2995	+ 18.43	1,580,590	1,457,587

Sources: (i) Gorakhpur district Census Handbook, U.P., 1961, Series A, Table A-II, p.7.

(ii) Gorakhpur District Census Handbook, Uttar Pradesh, General Population, Table, 1971.

(iii) Decade variation and percentage decade variation is calculated by the author.

APPENDIX TABLE A.XIX

Workers, Cultivators, Agricultural Labourers and Non-Workers, According to the Sex in the Gorakhpur District and Tehsils : 1961 and 1971.

District Tehsil (1)		TOTAL POPULATION			TOTAL WORKERS			CULTIVATORS		
		Person (2)	Male (3)	Female (4)	Person (5)	Male (6)	Female (7)	Person (8)	Male (9)	Female (10)
GORAKHPUR DISTRICT										
	Total	2,565,182	1,297,297	1,267,885	1,133,008	952,623	380,385	739,130	506,558	232,572
1961	Rural	237,839	1,191,052	1,186,787	1,073,511	698,975	374,537	738,030	505,636	232,394
	Urban	187,343	106,245	81,098	59,497	53,649	5,848	1,100	922	178
	Total	3,038,177	1,580,590	1,457,587	983,934	831,004	152,930	458,981	430,904	28,077
1971	Rural	2,798,019	1,447,399	1,350,620	920,897	771,304	149,593	457,894	429,851	28,043
	Urban	240,158	133,191	106,967	63,037	59,700	3,337	1,087	1,053	34
PHARENDA TEHSIL										
	Total	433,027	222,134	210,896	221,007	138,817	82,190	171,898	110,397	61,511
1961	Rural	433,027	222,134	210,895	221,007	138,817	82,190	171,898	110,397	61,511
	Urban	-	-	-	-	-	-	-	-	-
	Total	506,357	265,724	240,633	177,670	152,811	24,859	108,738	101,740	6,998
1971	Rural	506,357	265,724	240,633	177,670	152,811	24,859	108,738	101,740	6,998
	Urban	-	-	-	-	-	-	-	-	-

(Contd.)

APPENDIX TABLE A.XIX (Contd.)

District / Tehsil		AGRICULTURAL LABOURERS			OTHER WORKERS			NON-WORKERS		
		Person (11)	Male (12)	Female (13)	Person (14)	Male (15)	Female (16)	Person (17)	Male (18)	Female (19)
GORAKHPUR DISTRICT										
	Total	221,488	109,371	112,117	172,390	133,694	38,696	1,432,174	544,674	887,500
1961	Rural	221,026	109,039	111,987	114,455	84,299	30,156	1,304,328	492,078	812,250
	Urban	462	332	130	57,935	49,395	8,540	127,846	52,596	75,250
	Total	372,458	256,880	115,578	152,495	143,220	9,275	2,054,243	749,586	1,304,657
1971	Rural	70,652	255,262	115,390	92,351	86,191	6,160	1,877,122	676,095	1,201,027
	Urban	806	1,618	188	60,144	57,029	3,115	177,121	73,491	103,630
PHARENDA TEHSIL										
	Total	33,857	16,236	17,621	15,252	14,184	1,068	212,020	83,317	128,703
1961	Rural	33,857	16,236	17,621	152,52	14,184	1,068	212,020	83,317	128,703
	Urban	-	-	-	-	-	-	-	-	-
	Total	54,195	37,075	17,120	14,737	13,996	741	328,687	112,913	215,774
1971	Rural	54,195	37,075	17,120	14,737	13,996	741	328,687	112,913	215,774
	Urban	-	-	-	-	-	-	-	-	-

(Contd.)

APPENDIX TABLE A.XIX (Contd.)

(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
MAHARAJGANJ TEHSIL										
	Total	566,893	287,607	279,286	280,807	176,378	104,429	212,006	137,681	74,325
1961	Rural	566,893	287,607	279,286	280,807	176,378	104,429	212,006	137,681	74,325
	Urban	-	-	-	-	-	-	-	-	-
	Total	624,221	351,056	323,165	228,698	197,814	30,884	126,247	121,534	6,713
1971	Rural	624,221	351,056	323,165	228,698	197,814	30,884	128,297	121,934	6,713
	Urban	-	-	-	-	-	-	-	-	-
GORAKHPUR TEHSIL										
	Total	964,748	500,019	464,720	387,949	282,467	105,480	216,211	157,221	58,490
1961	Rural	794,493	397,418	387,075	330,635	230,620	100,015	215,236	156,901	58,335
	Urban	180,255	103,610	77,644	57,314	51,899	5,465	975	820	155
	Total	1,149,411	610,703	538,708	362,252	310,837	51,415	129,727	127,046	7,681
1971	Rural	918,500	482,335	436,165	301,318	253,142	48,176	128,735	121,084	7,651
	Urban	230,911	128,368	102,543	60,934	57,695	3,239	992	962	30
BANSGAON TEHSIL										
	Total	591,514	287,528	312,986	243,245	154,959	88,286	139,015	100,769	38,246
1961	Rural	563,426	283,893	309,533	241,062	153,159	87,903	138,890	100,667	28,223
	Urban	7,088	36, 35	3,453	21, 83	1,800	383	125	102	23
	Total	708,188	353,107	355,081	215,314	169,542	45,772	85,584	92,269	6,685
1971	Rural	698,941	348,284	350,657	213,211	167,537	45,675	92,174	85,493	6,681
	Urban	9,247	4,823	4,424	2,103	2,005	98	95	91	4

Appendix Table A.XIX (Contd.)

		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
MAHARAJGANJ TEHSIL										
	Total	53,971	26,668	27,303	14,830	13,940	890	286,086	111,229	174,857
1961	Rural	53,971	26,668	27,303	14,830	139,940	890	286,086	111,229	174,857
	Urban	-	-	-	-	-	-	-	-	-
	Total	85,152	61,896	23,256	15,299	14,384	915	445,523	153,242	292,281
1971	Rural	85,152	61,896	23,256	15,299	14,384	915	445,523	153,242	292,281
	Urban	-	-	-	-	-	-	-	-	-
GORAKHPUR TEHSIL										
	Total	65,510	34,074	31,418	148,191	99,853	67,145	576,799	217,559	359,240
1961	Rural	65,123	33,803	31,320	50,276	47,259	3,017	463,858	166,798	287,060
	Urban	387	291	96	55,952	52,594	3,358	122,941	50,761	72,180
	Total	132,712	94,255	38,457	99,813	94,536	5,277	787,159	299,866	487,293
1971	Rural	131,130	92,832	38,298	41,453	39,226	2,236	613,182	229,193	387,989
	Urban	1,582	1,423	159	58,360	55,310	3,050	69,977	70,673	99,304
BANSGAON TEHSIL										
	Total	68,150	32,373	32,373	36,080	33,554	2,524	357,269	132,569	224,700
1961	Rural	68,075	32,332	32,332	34,097	31,710	2,387	352,364	130,734	221,630
	Urban	75	75	41	1,983	1,643	137	4,905	1,835	3,070
	Total	100,399	63,654	36,745	22,646	20,304	2,342	492,874	183,505	30,930
1971	Rural	100,175	63,459	36,716	20,862	18,585	2,272	465,730	180,747	304,983
	Urban	224	159	29	1,784	1,719	65	7,144	2,818	4,326

Sources: (i) District Census Handbook, 1961, Part II-A, Series 21, Uttar Pradesh, pp.400-401.

(ii) District Census Handbook, 1971, Part B, Uttar Pradesh, pp. 4-5.

APPENDIX TABLE A.XX

Percentages and Percentage Variations of the Workers, Non-workers in the Gorakhpur District and Tehsils : 1961 and 1971

District / Tahsil	Person / Male / Female	Percentage of Workers, Non-Workers to Total Population					
		Workers		Percentage variation	Non-Workers		Percentage variation
		1961	1971		1961	1971	
1	2	3	4	5	6	7	8
GORAKHPUR DISTRICT							
	P	44.2	32.40	- 11.80	55.80	67.60	+ 11.80
Total	M	58.0	52.61	- 5.39	42.00	47.40	+ 5.40
	F	30.0	10.5	- 19.5	70.00	89.50	+ 19.50
	P	44.16	35.20	- 8.96	54.85	64.80	+ 7.95
Rural	M	53.68	54.00	- 4.68	41.31	46.00	+ 4.69
	F	31.55	15.07	- 16.48	68.44	84.43	+ 16.47
	P	31.75	26.24	- 5.51	68.25	73.76	- 5.51
Urban	M	50.49	44.82	- 5.67	49.51	55.18	+ 5.67
	F	7.21	3.11	- 4.10	92.79	96.89	+ 4.10
PHARENDA TEHSIL							
	P	51.03	35.08	- 15.95	48.97	64.92	+ 15.95
Total	M	62.49	57.50	- 4.99	37.51	42.50	+ 4.99
	F	38.97	10.33	- 28.64	61.03	89.67	+ 28.64
	P	51.03	35.8	- 15.95	48.97	64.92	+ 15.95
Rural	M	62.49	57.90	- 4.99	37.51	42.50	+ 4.99
	F	38.97	10.33	- 28.64	61.03	89.67	+ 28.64
	P	-	-	-	-	-	-
Urban	M	-	-	-	-	-	-
	F	-	-	-	-	-	-

(Contd.)

APPENDIX TABLE A.XX (Contd.)

District Tehsil		Person Male Female	Percentage of Cultivators, Agricultural Labourers and Other Workers To Total Workers								
			Cultivators		Percentage variation	Agricultural labourers		Percentage variation	Other workers		Percentage variation
			1961	1971		1961	1971		1961	1971	
1		2	3	4	5	6	7	8	9	10	11
GORAKHPUR DISTRICT											
		P	65.2	46.6	- 18.6	19.5	37.8	+ 18.3	15.2	15.4	+ 0.2
	Total	M	67.3	51.8	- 15.5	14.5	30.9	+ 16.4	17.7	17.2	- 0.5
		F	61.1	18.3	- 43.8	29.4	7.5	- 21.9	10.1	6.0	- 4.1
		P	68.7	47.7	- 19.10	20.5	40.2	+ 19.7	10.6	10.0	- 0.6
	Rural	M	72.3	55.7	- 16.6	15.5	33.0	+ 17.5	12.0	11.1	- 0.9
		F	62.0	18.7	- 43.3	29.9	77.1	+ 47.2	8.0	4.1	- 3.9
		P	1.8	1.7	- 0.1	0.7	28.0	+ 2.1	97.3	95.4	- 1.9
	Urban	M	1.7	1.7	-	0.6	2.7	+ 2.1	72.0	95.5	+ 3.5
		F	3.0	1.0	- 2.0	2.2	5.6	+ 3.2	-	73.3	-
PHARENDA TEHSIL											
		P	77.7	61.2	- 16.5	15.3	30.5	+ 15.2	6.9	8.2	+ 1.3
	Total	M	79.5	66.5	- 13.0	11.6	24.2	+ 12.6	10.2	9.1	- 1.1
		F	71.1	28.1	- 33.0	21.4	58.8	+ 37.4	1.2	2.9	+ 1.7
		P	77.7	61.2	- 16.5	15.3	30.5	+ 15.2	6.9	8.2	+ 1.3
	Rural	M	79.5	66.5	- 13.0	11.6	24.2	+ 12.6	10.2	9.1	-1.1
		F	71.1	28.1	- 33.0	21.4	58.5	+ 37.4	1.2	2.9	+ 1.7
		P	-	-	-	-	-	-	-	-	-
	Urban	M	-	-	-	-	-	-	-	-	-
		F	-	-	-	-	-	-	-	-	-

(Contd.)

APPENDIX TABLE A.XX (Contd.)

1	2	3	4	5	6	7	8
MAHARAJGANJ TEHSIL							
	P	49.53	33.92	- 15.61	50.47	66.08	+ 15.61
Total	M	61.32	56.34	- 4.98	38.68	43.66	+ 4.98
	F	37.39	9.5	- 27.89	62.61	90.5	+ 27.89
	P	49.53	33.92	- 15.61	50.47	66.08	+ 15.61
Rural	M	61.32	56.34	- 4.98	38.68	43.66	+ 4.98
	F	37.39	9.5	- 27.89	62.61	90.5	+ 27.89
	P	-	-	-	-	-	-
Urban	M	-	-	-	-	-	-
	F	-	-	-	-	-	-
GORAKHPUR TEHSIL							
	P	40.21	31.5	- 8.71	59.79	68.5	+ 8.81
Total	M	56.48	50.85	- 5.63	53.53	49.11	- 4.41
	F	22.69	9.54	- 13.15	77.31	90.46	+ 13.15
	P	41.61	32.80	- 8.81	58.39	67.20	+ 8.81
Rural	M	58.03	52.48	- 5.55	41.97	47.52	+ 5.55
	F	25.83	11.04	- 16.77	74.17	88.96	+ 14.79
	P	31.79	26.38	- 5.41	68.21	73.62	+ 5.41
Urban	M	50.53	44.94	- 5.59	49.47	55.06	+ 5.59
	F	8.03	3.15	- 3.88	92.97	96.35	+ 3.88
BANSGAON TEHSIL							
	P	57.15	42.85	- 14.30	28.0	46.62	+ 18.62
Total	M	65.02	50.47	- 14.55	20.89	37.54	+ 16.65
	F	43.32	14.60	- 28.72	36.66	80.27	+ 43.61
	P	57.61	43.23	+ 14.38	28.23	46.98	+ 18.75
Rural	M	65.72	51.02	- 14.70	21.11	37.87	+ 16.65
	F	43.48	14.62	- 28.86	36.78	80.38	+ 43.60
	P	5.72	4.51	- 1.21	3.43	10.65	+ 7.22
Urban	M	5.66	4.53	- 1.13	4.16	9.72	+ 5.56
	F	6.00	4.08	- 1.92	10.70	29.59	+ 18.89

APPENDIX TABLE A.XX (Contd.)

1	2		3	4	5	6	7	8	9	10	11
MAHARAJGANJ TEHSIL		P	75.4	56.0	- 19.4	91.2	37.2	- 54.0	5.2	6.6	+ 1.4
	Total	M	78.0	61.4	- 16.6	15.1	31.2	+ 16.1	7.9	7.2	- 0.7
		F	71.1	21.7	- 49.4	26.1	75.3	+ 49.2	0.8	2.9	+ 2.1
		P	75.4	75.4	- 19.4	91.2	37.2	- 54.0	5.2	6.6	+ 1.4
	Rural	M	78.0	78.0	- 16.6	15.1	31.2	+ 16.1	7.9	7.2	- 0.7
		F	71.1	71.1	- 49.4	26.1	75.3	+ 49.2	0.8	2.9	+ 2.1
		P	-	-	-	-	-	-	-	-	-
	Urban	M	-	-	-	-	-	-	-	-	-
		F	-	-	-	-	-	-	-	-	-
GORAKHPUR TEHSIL		P	55.73	35.8	- 19.93	16.8	36.6	+ 19.8	38.1	27.5	-10.6
	Total	M	55.6	40.8	- 14.8	12.0	30.3	+ 18.3	35.3	30.4	- 4.9
		F	55.4	14.9	- 40.5	29.7	74.1	+ 44.4	6.0	10.2	+ 4.2
		P	65.0	42.7	- 22.3	19.6	43.5	+ 23.9	15.2	13.7	- 1.5
	Rural	M	68.0	47.8	- 20.2	14.6	36.6	+ 22.0	20.4	15.4	- 5.0
		F	58.3	15.8	- 42.5	31.3	79.4	+ 48.1	3.0	4.6	+ 1.6
		P	1.7	1.6	- 0.1	0.6	2.5	+ 1.9	97.6	95.7	- 1.9
	Urban	M	1.5	1.6	+ 0.1	0.5	2.4	+ 1.9	-	95.3	-
		F	2.8	0.9	- 1.9	1.7	4.9	+ 3.2	61.4	94.1	+32.7
BANSGAON TEHSIL		P	14.83	10.51	- 4.32	41.12	30.40	- 10.72	58.88	69.60	+10.72
	Total	M	21.65	11.97	- 9.68	53.89	48.01	- 5.88	46.11	57.99	+ 5.88
		F	2.85	5.11	+ 2.26	28.20	12.89	- 15.31	71.80	87.11	+15.31
		P	14.14	9.78	- 4.36	42.78	30.50	- 12.28	57.22	69.50	+12.28
	Rural	M	20.70	11.09	- 9.61	53.94	48.10	- 5.84	46.06	51.90	+ 5.84
		F	2.71	4.97	+ 2.26	28.39	18.01	- 15.38	71.61	86.98	+15.37
		P	90.83	84.83	- 6.00	30.79	22.74	- 8.05	69.21	77.26	+ 8.05
	Urban	M	90.16	85.73	- 4.43	49.51	41.57	- 7.94	50.49	58.43	+ 7.94
		F	35.77	66.32	+ 30.55	11.09	2.2	- 8.89	88.91	97.79	+ 8.88

Source: Percentages and percentage variations are calculated on the basis of Appendix Table A.XIX.

APPENDIX TABLE A.XXI

Percentage of Active workers, non-workers, according to main activity classified by Sex, Age (15-59) in Total and in Rural Areas Separately in Uttar Pradesh and Gorakhpur District : 1961 and 1971

State/District		Age Group	Total Population			Percentage of Workers, Non-workers to the total Population			
						Workers		Non-Workers	
			Person	Male	Female	Male	Female	Male	Female
UTTAR PRADESH									
1961	TOTAL	Total	100.00	100.00	100.00	58.18	18.14	41.82	81.86
		15-59	53.52	53.36	53.68	86.14	21.61	13.86	78.39
	RURAL	Total	87.14	86.45	87.90	59.19	19.90	40.81	80.1
		15-59	53.53	53.38	53.98	87.29	24.07	12.71	75.93
1971	TOTAL	Total	100.00	100.00	100.00	52.80	8.78	47.20	91.22
		15-59	52.04	51.91	52.42	80.22	10.46	19.78	89.54
	RURAL	Total	85.97	85.53	86.48	53.55	9.52	46.45	90.48
		15-59	52.03	51.45	52.70	81.91	11.25	18.09	88.75
GORAKHPUR DISTRICT									
1961	TOTAL	Total	100.00	100.00	100.00	58.00	30.00	42.00	70.00
		15-59	52.93	52.52	53.35	93.01	46.91	6.99	53.09
	RURAL	Total	92,69	91.81	93.60	58.68	31.55	41.32	68.45
		15-59	52.69	51.96	53.43	94.40	49.24	5.6	50.76
1971	TOTAL	Total	100.00	100.00	100.00	52.61	10.5	47.40	89.50
		15-59	52.89	52.18	53.65	86.15	15.79	13.85	84.21
	RURAL	Total	92.09	91.57	92.65	54.00	15.07	46.00	84.93
		15-59	52.90	51.95	53.93	84.45	16.58	15.55	83.42

(Contd.)

APPENDIX TABLE A. XXI (Contd.)

State/District		Age Group	Percentage of Cultivators, Agricultural Labourers, Other Workers of the Total Workers					
			Cultivators		Agricultural labourers		Other Workers	
			Male	Female	Male	Female	Male	Female
UTTAR PRADESH								
1961	TOTAL	Total	63.62	64.71	9.05	19.24	27.32	16.0
		15-59	59.12	60.00	7.66	16.91	22.68	11.07
	RURAL	Total	71.64	66.94	10.14	19.88	18.21	13.18
		15-59	66.99	61.27	8.73	18.59	16.26	11.14
1971	TOTAL	Total	59.09	46.24	17.18	44.48	23.96	29.46
		15-59	53.35	40.82	11.61	41.94	20.49	6.22
	RURAL	Total	67.27	45.20	18.89	37.73	13.84	25.38
		15-59	61.74	39.57	12.55	40.51	10.68	5.91
GORAKHPUR DISTRICT								
1961	TOTAL	Total	67.30	62.10	14.50	29.50	18.20	9.40
		15-59	66.35	61.42	14.13	31.73	17.58	8.78
	RURAL	Total	72.33	62.04	15.59	29.90	12.06	8.05
		15-59	71.86	62.37	15.28	29.65	11.36	7.45
1971	TOTAL	Total	51.9	18.30	36.5	30.7	17.2	6.1
		15-59	50.64	18.13	29.63	74.58	16.79	5.89
	RURAL	Total	54.56	18.74	33.09	77.13	13.63	4.11
		15-59	54.49	18.56	31.79	76.21	12.70	4.21

Sources: (i) Census of India, 1971, Series I, Paper I of 1971, Supplement.
(ii) District Census Hand-book 1971, Part B, Series 21, Uttar Pradesh.

APPENDIX TABLE A.XXII

Rural Crafts and Number of Persons Employed in Production in Gorakhpur District : 1961

Name of crafts	No. of Villages	Number of Persons Employed in Production		
		Persons	Males	Females
Cotton Textiles	43	2,583	1,450	1,133
Leather, Footwear	24	264	186	78
Basketry	25	444	232	212
Pottery	212	3,849	2,111	1,738
Woollen blankets and Carpets	9	238	109	12
Brass and Copperware	1	18	18	-
Total	314	7,396	4,106	3,290

Source: District Census Hand-book, 1961, Gorakhpur, U.P., p163.

APPENDIX TABLE A.XXIII

Statistics of Land Utilization (Projection)
Gorakhpur District : 1960-61 to 1973-74

(in hectares)

	Item	1960-61	1965-66	1968-69	1970-71	1973-74
1	Geographical area	628,166	628,166	628,166	628,166	628,166
2	Forest	56,630	57,270	56,896	56,996	56,996
3	Barren and uncultivable land	3,529	4,697	4,320	4,392	4,392
4	Land utilized other than cultivation	48,294	49,560	48,929	51,535	52,035
5	Cultivable waste land	15,553	12,806	11,700	10,946	8,946
6	Permanant pasture and grazing land	127	570	414	306	306
7	Area under trees, gardens which is not included in cropped area	16,732	25,367	15,256	17,141	17,250
8	Current fallows	1,943	8,776	9,940	11,298	9,298
9	Other fallows	12,932	6,709	10,092	6,672	4,672
10	Not cropped area	472,427	472,413	472,449	475,227	474,351
11	Area sowed more than once	157,139	169,271	164,064	169,273	216,451
12	Net irrigated area	163,695	186,324	187,693	198,158	300,902
13	Total irrigated area	174,528	199,834	201,203	211,668	346,202

Source: Draft Fifth Five Year Plan, Gorakhpur Region, 1973.

APPENDIX TABLE A.XXIV

Area Under Different Land uses by Size Class of Holdings in Gorakhpur District : 1971

(in hectares)

Size Class (Hectares)	Total Holdings				Area			
	Number	Percentage	Area	Percentage	Net Area Sown	Percentage	Current fallows	Percentage
Below 0.5	308,245	55.88	67,186	14.22	64,311	14.41	844	12.75
0.5 - 1.0	110,869	20.08	78,944	16.71	75,656	16.95	940	14.20
1.0 - 2.0	79,724	14.44	110,195	23.33	105,526	23.64	1,275	19.27
2.0 - 3.0	26,334	4.77	63,115	13.36	60,025	13.45	870	13.14
3.0 - 4.0	10,847	1.96	37,168	7.87	35,128	7.87	511	7.72
4.0 - 5.0	5,789	1.04	25,777	5.45	24,223	5.42	378	5.71
5.0 -10.0	7,558	1.36	50,511	10.69	46,851	10.49	818	12.36
10.0 -20.0	1,904	0.34	25,228	5.34	22,766	5.10	555	8.38
20.0- 30.0	278	0.05	6,620	1.40	5,910	1.32	181	2.73
30.0 -40.0	73	0.01	2,489	0.52	2,104	0.40	49	0.74
40.0 -50.0	34	0.006	1,509	0.31	1,295	0.29	45	0.68
50.0 ahd above	41	0.009	3,531	0.74	2,431	0.54	150	2.26
TOTAL	551,876	100.00	472,273	100.00	446,226	94.45	6,616	1.40

(Contd.)

APPENDIX TABLE A.XXIV (Contd.)

Size Class (Hectares)	Area: Net Cultivated area	Percentage	Other uncultivated land excluding fallow land	Percentage	Fallow lands other than current fallow	Percentage	Cultivable waste land	Percentage	Not available for cultivation	Percentage
Below 0.5	65,155	14.38	744	10.28	304	10.47	260	9.36	723	11.09
0.5- 1.0	76,596	16.91	820	11.33	350	12.06	311	11.19	867	13.30
1.0- 2.0	106,801	23.58	1,196	16.53	570	19.64	431	15.52	1,197	18.36
2.0- 3.0	60,895	13.44	897	12.39	305	10.50	268	9.65	750	11.50
3.0- 4.0	35,639	7.87	630	8.70	208	7.16	196	7.05	495	7.59
4.0- 5.0	24,601	5.43	514	7.10	167	5.75	142	5.11	353	5.41
5.0-10.0	47,669	10.52	1,070	14.79	366	12.61	355	12.78	1,051	16.12
10.0-20.0	23,321	5.14	709	9.80	271	9.33	328	11.81	599	9.18
20.0-30.0	6,091	1.34	216	2.98	84	2.89	74	2.66	155	2.37
30.0-40.0	2,153	0.4	100	1.38	82	2.82	48	1.72	106	1.62
40.0-50.0	1,340	0.29	42	0.58	19	0.65	11	0.39	97	1.48
50 and above	2,581	0.56	296	4.09	176	6.06	353	12.71	125	1.91
TOTAL	452,842	95.88	7,234	1.53	2,902	0.61	2,777	0.58	6,518	1.38

Source: Agricultural Census in Uttar Pradesh, 1971, Board of Revenue, Uttar Pradesh, Lucknow, 1974, p. 349.

APPENDIX TABLE A.XXV

Sourcewise area Irrigated by Size Class of Holdings in Gorakhpur District : 1971

(In Hectares)

Size Class (Hectares)	Total Holdings				Area Irrigated By			
	Number	percentage	Area	Percentage	Canals	Percentage	Tanks	Percentage
Below 0.5	308,245	55.88	67,186	14.22	4,372	15.22	4,336	16.62
0.5- 1.0	110,869	20.08	78,944	16.71	5,068	17.64	4,420	16.94
1.0- 2.0	79,724	14.44	110,195	23.33	7,016	24.42	6,151	23.58
2.0- 3.0	26,334	4.77	63,115	13.36	3,945	14.74	3,670	14.07
3.0- 4.0	10,847	1.96	37,168	7.87	2,420	8.42	2,075	7.95
4.0- 5.0	5,789	1.04	25,777	5.45	1,485	5.16	1,352	5.18
5.0-10.0	7,558	1.36	50,511	10.67	2,764	9.62	2,481	9.51
10.0-20.0	1,904	0.34	25,228	5.34	1,220	4.24	1,184	4.53
20.0-30.0	278	0.05	6,620	1.40	248	0.86	322	1.23
30.0-40.0	73	0.01	2,489	0.52	93	0.32	31	0.11
40.0-50.0	34	0.006	1,509	0.31	64	0.22	30	0.11
50 and above	41	0.007	3,531	0.74	30	0.10	30	0.11
TOTAL	551,876	100.00	472,273	100.00	28,725	6.08	26,082	5.52

(Contd.)

APPENDIX TABLE XXV (Contd.)

Size Class (Hectares)	Area Irrigated By							
	Wells	Percentage	Tube-wells	Percentage	Others	Percentage	Total net irrigated area	Percentage
Below 0.5	7,484	15.31	11,343	13.75	8,296	16.16	35,831	15.08
0.5- 1.0	9,869	20.19	13,732	16.65	9,541	18.58	42,630	17.95
1.0- 2.0	13,274	27.16	18,782	22.77	12,786	24.90	58,009	24.42
2.0- 3.0	6,950	14.22	10,763	13.05	6,956	13.55	32,284	13.59
3.0- 4.0	3,746	7.66	6,372	7.72	3,732	7.27	18,385	7.74
4.0- 5.0	2,318	4.74	4,612	5.59	2,566	4.99	12,333	5.19
5.0-10.0	3,561	7.28	8,920	10.81	4,492	8.75	22,258	9.37
10.0-20.0	1,259	2.57	4,589	5.56	2,182	4.25	10.434	4.39
20.0-30.0	177	0.36	1,377	1.66	440	0.85	2,564	1.07
30.0-40.0	147	0.30	415	0.50	115	0.22	801	0.33
40.0-50.0	40	0.08	420	0.50	59	0.11	613	0.25
50.0 and above	42	0.08	1,107	1.34	165	0.32	1,374	0.57
TOTAL	48,867	10.34	82,472	17.46	51,330	10.86	237,478	50.28

source: Agricultural Census in Uttar Pradesh, 1971, Board of Revenue, Uttar Pradesh, Lucknow, 1974, p.349.

APPENDIX TABLE A.XXVI

Area, Production and Average Yield of Main Food and Cash Crops in Gorakhpur District : 1965-66 to 1971-72

(In hectares)

Year	Paddy			Wheat			Sugarcane		
	Area	Production (Metric tons)	Average yield (quintal)	Area	Production (Metric tons)	Average yield (quintal)	Area	Production (Metric tons)	Average yield (quintal)
1965-66	233,947	205,033	9.54	114,386	102,282	9.74	28,084	1,273,932	494.46
1966-67	236,966	153,409	7.05	110,413	124,598	12.29	25,569	1,072,909	456.92
1967-68	240,059	169,740	7.70	116,398	122,755	11.48	20,282	982,347	527.39
1968-69	241,233	188,836	7.83	131,763	168,908	12.82	23,699	1,248,899	426.98
1969-70	251,970	182,590	7.25	143,555	180,006	12.54	26,684	1,415,680	530.54
1970-71	255,493	255,904	10.02	185,015	213,264	11.53	25,169	1,235,763	490.46
1971-72	253,951	210,149	8.28	91,520	212,487	11.09	22,659	914,172	403.45

source: District Agricultural Statistics, District Agriculture Office, Gorakhpur, 1973.

APPENDIX TABLE A.XXVII

Distribution of Land holdings of Sample Villages in Different Size Holdings : 1974-75

(In Acres)

	Village	Total Cultivators households	Number of Households in Different Size Holdings				
			Below .625	Between 1.25 & 2.5	Between 1.875 & 2.5	Between 2.5 - 5	Between 5 - 7.5
1	Ramghar Urf Chouri	422	54	170	76	95	10
2	Sonbarsa	133	12	65	25	13	4
3	Manokishanpur	123	16	46	18	20	14
4	Rantdandi	95	13	47	10	18	7
5	Khutbhar	131	26	46	13	29	11
6	Jaddupipra	186	21	55	30	32	25
	Total	1,090	142	429	172	207	71
	Percentage of each group to the total families	100.00	13.02	39.35	15.77	18.99	6.51

(Contd.)

APPENDIX TABLE A.XXVII (Contd.)

	Village	Total Cultivators households	Number of Households in Different Size Holdings			
			Between 7.5 - 10	Between 10 - 15	Between 15 - 20	Above 20
1	Ramghar Urf Chouri	422	9	5	2	1
2	Sonbarsa	133	3	9	1	1
3	Manokishanpur	123	5	2	1	1
4	Rantdandi	95	-	-	-	-
5	Khutbhar	131	4	2	-	-
6	Jaddupipra	186	18	2	2	1
	Total	1,090	39	20	6	4
	Percentage of each group to the total families	100.00	3.57	1.83	0.55	0.36

Source: Statistics were collected during the field study, 1974-75.